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THE PROBLEM OF TYPHUS IN THE UNITED STATES

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In a paper presented before this Association in 1911, Dr. Morris Lewis[1] reported a study of thirteen cases of "so-called Brill's disease" observed by him in Pennsylvania Hospital. He stated that he was not convinced that the disease was not an atypical typhus, but that it remained for the laboratory worker to settle the question definitely.

Not long after Lewis' paper was published the identity of the disease, described by Brill and referred to by Lewis, with typhus was definitely determined by the work of Anderson and Goldberger.[2] These workers found that the monkey was susceptible to infection with blood from patients with Brill's disease; and, by a series of cross-immunity tests, showed that monkeys that had recovered from Brill's disease could not be infected with Mexican typhus and, conversely, that monkeys resistant to Mexican typhus could not be infected with Brill's disease. This reciprocal immunity showed conclusively that the New York (Brill's) disease and Mexican typhus were identical.

Attention was first called to this symptom-complex by the papers of Dr. Nathan E. Brill[3] of New York, in which he clearly set forth the distinction between the disease described by him and typhoid. In three papers Brill reports having observed in New York 254 cases of the disease from 1896 to 1910. Louria[4] reported having observed eighteen cases in the Jewish Hospital of Brooklyn during the summer and fall of 1910. Ziegel[5] reported three cases in 1909 and 1910 from Beth Israel Hospital, New York. From a study of the medical records of the Massachusetts General Hospital for the ten years from Oct. 1, 1902, to Oct. 1, 1912, Roger Lee[6] concluded that typhus in a mild form had been present during that time in Boston and vicinity. He found in his study of the hospital statistics records of twenty-eight cases which corresponded fairly closely to Brill's description of typhus.

Strouse,[7] in 1912, reported the observation of cases in the Michael Reese Hospital, Chicago. Paullin[8] reported at the Southern Medical Association in 1912 having seen seven cases in Atlanta since 1910. Cases have also been reported by Patek[9] from Milwaukee, Warren Coleman[10] of New York and by Nicoll, Krumwiede, Pratt and Bullowa[11] from the Har Moriah Hospital, New York; by Charles[12] from Indiana and by Goldberger[13] from Virginia.

From this it is quite evident that the assertion made by Anderson and Goldberger early in 1912, that typhus is actually present at all times in certain large cities of the United States, has been verified and that the disease is even more wide-spread than they declared. Roger Lee, in his studies of the 1,404 cases of continued fever of a greater duration than seven days in the Massachusetts General Hospital, found a ratio of about one case of typhus to forty-seven of typhoid.

There is reason to believe that this same ratio would hold, not only for all the cases of typhoid in Boston, but also for typhoid in certain other large cities of the United States. According to the Public Health Reports for 1912, published by the Public Health Service, the following number of cases of typhoid were reported in certain large cities of the United States during the year 1912:

City	Cases	City	Cases
New York City	3,386	Chicago	1,039
Baltimore	1,067	Philadelphia	1,620
Boston	477	Washington	607

If we assume that the ratio of one case of typhus to forty-seven of typhoid, found by Lee in the Massachusetts General Hospital, holds for these cities, we may estimate that during 1912 typhus was present as follows:

City	Cases	City	Cases
New York	72	Chicago	22
Baltimore	22	Philadelphia	34
Boston	10	Washington	12

1. Lewis, Morris J.: So-Called Brill's Disease, Trans. Assn. Am. Phys., 1911, xxvi, p. 234.

2. Anderson, John F., and Goldberger, Joseph: The Relation of So-Called Brill's Disease to Typhus. An Experimental Demonstration of Their Identity, Pub. Health Rep., Feb. 2, 1912.

3. Brill, Nathan E.: A Study of Seventeen Cases of a Disease Clinically Resembling Typhoid, but without the Widal Reaction; Together with a Short Review of the Present Status of the Serodiagnosis of Typhoid Fever, New York Med. Jour., Jan. 8, and 15, 1898, pp. 48, 77; An Acute Infectious Disease of Unknown Origin; A Clinical Study Based on 221 Cases, Am. Jour. Med. Sc., April, 1910; Pathologic and Experimental Data Derived from a Further Study of an Acute Infectious Disease of Unknown Origin, Am. Jour. Med. Sc., August, 1911.

4. Louria, Leon: Brill's Disease, Med. Rec., New York, Aug. 26, 1911.

5. Ziegel, H. F. L.: The Affections Clinically Simulating Typhoid, with Especial Reference to and Reports of Cases of Brill's Disease, Med. Rec., New York, June 25, 1910, p. 1087.

6. Lee, Roger: Table of Twenty-Eight Cases Diagnosed as Typhus Showing a Persistently Negative Widal, Taken from the Records of the Massachusetts General Hospital for the Period Oct. 1, 1902, to Oct. 1, 1912, Boston Med. and Surg. Jour., 1913, clxviii, p. 126.

7. Strouse, Solomon: Brill's Disease, Mild Typhus, in the Michael Reese Hospital, Illinois Med. Jour., January, 1913.

8. Paullin, J. E.: Typhus in Atlanta, Ga., Pub. Health Rep., Jan. 10, 1913.

9. Patek, A. J.: Typhus, Report of a Case Occurring in Milwaukee, Wisconsin Med. Jour., 1912-13, xi, 18.

10. Coleman, Warren: (Four cases of so-called Brill's disease in one family.) Unpub. report at meeting of Academy of Medicine, New York, Feb. 15, 1910. Cited at end of article by Nicoll, Krumwiede, Pratt and Bullowa. (See Note 11.)

11. Nicoll, Matthias; Krumwiede, Charles; Pratt, Josephine S., and Bullowa, Jesse G. M.: Four Cases of Typhus (Brill's Disease) in One Family, THE JOURNAL A. M. A., Aug. 17, 1912, p. 521.

12. Charles, Etta: Brill's Disease, Indiana Med. Jour., 1912, v, p. 48.

13. Goldberger, Joseph: Report of a Suspected Case of Typhus at Petersburg, Va., Pub. Health Rep., Aug. 2, 1912, xxvii, 1222.

That this is not an altogether unwarranted assumption is evident from the fact that, according to reports from two hospitals in New York City—Mount Sinai and the Jewish Hospital of Brooklyn—cases of Brill's disease or typhus and of typhoid were treated in those hospitals as follows:

	Years	Typhus	Typhoid
Mount Sinai	1910	37	..
	1911	27	..
	1912	36	..
Jewish Hospital....	1910	22	45
	1911	10	46
	1912	19	44

From the foregoing tables it is seen that the ratio of typhus to typhoid in the Jewish Hospital of Brooklyn for the three years 1910, 1911 and 1912 was 1 to 2.6 instead of the ratio 1 to 47 as found by Lee in Boston.

The number of cases of typhoid reported to the city department of health of New York for the year 1910 was 3,735. Estimation of the probable number of cases of typhus in the city that year by Lee's figures gives seventy-seven as the result. Now, we find that for 1910 there actually occurred in two hospitals in New York City fifty-nine cases of typhus, leaving only twenty-one more cases to be accounted for in all the other hospitals and in private practice. In view of this, it is certainly reasonable to assume that there were fully as many cases unrecognized as were recognized and that the estimated number of seventy-seven by no means covers the number of cases of typhus that actually occurred in the city.

My only excuse for thus briefly bringing the subject to attention again is the hope that cases which may come under observation may be reported and more accurate data collected as to the prevalence of typhus in the United States. While the disease, as generally observed, has had a low case mortality and shows but little tendency to spread, it is nevertheless apparently always present in our larger cities and the possibility should ever be borne in mind that it may acquire virulence and epidemic prevalence. The fact that over 321 cases of the disease have come under the observation of one physician justifies the assumption that perhaps cases may have passed unrecognized by others and that the disease exists in localities other than those from which it has been reported.

Guinea-pigs are quite susceptible to typhus when inoculated intraperitoneally with blood from victims of the disease during the active febrile period, the only indication of infection in the animal being the temperature curve, which, in its rise, duration and fall, is quite typical and readily recognized. I suggest, as a procedure of value in arriving at a correct diagnosis, the inoculation of guinea-pigs with about 3 c.c. intraperitoneally of blood from cases of continued fever giving a negative Widal and blood-culture; especially in cases in which there has been a sudden onset, an atypical eruption, intense headache, apathy and prostration. I think that it will be found that typhus is more frequently encountered, at least in our larger cities, than has heretofore been the quite general belief.

I am under obligations to Dr. Nathan E. Brill of the Mount Sinai Hospital, and Dr. C. Eugene Strasser, superintendent of the Jewish Hospital of Brooklyn, for statistics on typhus and typhoid in those institutions.

The following references also may be found of interest:

Anderson, John F., and Goldberger, Joseph: The Relation of Rocky Mountain Spotted Fever to the Typhus of Mexico; a Preliminary Note, Pub. Health Rep., Dec. 10, 1909, p. 1861; A Note on the Etiology of "Tabardillo," the Typhus Fever of Mexico, Pub. Health Rep., Dec. 24, 1909, p. 1941; The Etiology of Tabardillo or Mexican Typhus: an Experimental Investigation, Jour. Med. Research, June 1910, p. 469; Experimental Proof of the Identity of Brill's Disease and Typhus, New York Med. Jour., May 11, 1912.

Goldberger, Joseph, and Anderson, John F.: The Transmission of Typhus, with Especial Reference to Transmission by the Head Louse (Pediculus Capitis), Pub. Health Rep., March 1, 1912, p. 297; Some Recent Advances in Our Knowledge of Typhus; THE JOURNAL A. M. A., Aug. 17, 1912, lix, 514.

Twenty-Fifth and E Streets, N. W.

IMPROVED DEVICE FOR ILLUMINATING THE OPERATING-ROOM

WILLARD BARTLETT, A.M., M.D.
ST. LOUIS

Recently I suggested a focused system of operating-room lighting.[1] The use of six automobile head-

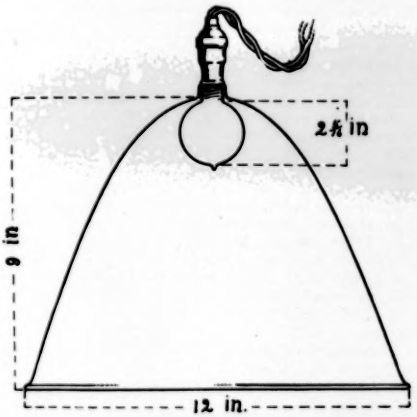

Fig. 1.—A diagram of the individual reflector, socket and lamp.

lights focused on the operation field, for the past six months, has proved so eminently satisfactory that it has seemed worth while to make the principle more generally useful by applying it to the ordinary street lighting current of 110 volts. This might seem at first thought a most simple matter until one considers that the 6-volt automobile lamp has a vastly shorter filament than the common 110-volt incandescent bulb of like candle-power and offers, for all practical purposes, the "point of light" demanded by a parabolic reflector such as automobile makers employ. The relatively long filament of a standard 110-volt lamp, though coiled as tightly as is consistent with good practice, represents a luminous object about 1 inch in diameter enclosed in a glass bulb 2 5/16 inches in diameter. This gives a 25-watt burner which is, as Mr. Fergusson, the expert lamp-maker of this city, assures me, the most compact of the durable and thoroughly useful Tungsten globes. (In order that the

1. Bartlett, Willard: A Method of Focusing Several Electric Lights on the Field of Operation, Ann. Surg., January, 1913, p. 124.

light may be completely diffused I make use of frosted glass only.)

The selection of a lamp by no means completed the solution of the problem, since no reflector on the market would focus its rays as desired. Experience had shown an illuminated field of 18-inch diameter, 7 feet from the source of light, to be highly useful. With these data in mind, Professor Waldo, head of mathematics at Washington University, was good enough to plat the curve of an ellipsoidal reflector which permits one to use in the desired manner about five-sixths (some 300 degrees) of the rays emanating from this lamp. Mr. Edwin F. Guth's enthusiasm led him to "spin" these reflectors for me, purely as an experiment; and thus

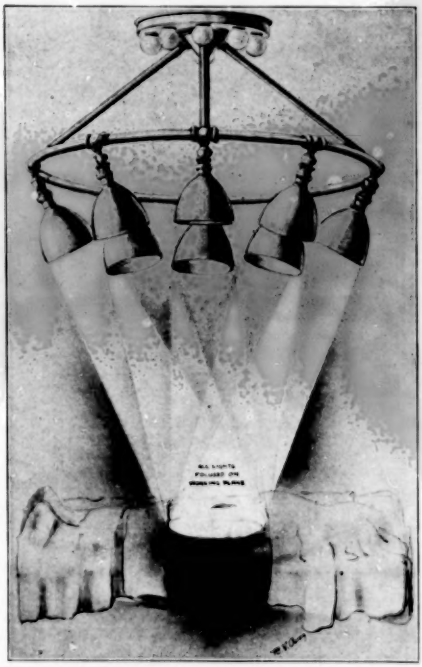

Fig. 2.—Eight lights grouped at a distance of 7 feet from the operating-table.

the cooperation of several workers resulted in a solution of the problem.

These ellipsoidal mirrors are 12 inches in diameter by 9 inches deep, dimensions which render them unwieldy, when taking the number used into consideration; hence a depth of but 6 inches is now advised. The slight loss in illumination is of no consequence since the supply that remains is more than abundant.

The accompanying illustrations will give a better idea than can any verbal description of the way in which light from eight sources, in a 6-foot circle, may be made to meet at an angle of 45 degrees on the field of operation. A group of eight other 40-watt lamps set in the ceiling plate takes care of the general room illumination.

The apparatus made up in white enameled steel tubing harmonizes perfectly with other operating-room furniture. Two sets, somewhat modified to surround rectangular mirrors, may be seen at the Mayo clinic, Rochester, Minn., at the present time.

I cannot better state the demonstrated advantages of the contrivance than by quoting from the article mentioned in my opening sentence, naming some of the desirable features which it seemed to possess when installed as an experiment:

When six automobile head-lights, situated at different points, are focused on a given field, it stands to reason that the illumination is intense and that in this manner shadows are practically done away with. The source of the light is so near the ceiling that no heat from it is noticeable at the level of the operator's head. The globes are frosted and a soft, diffuse glow results. The satisfaction of having a known quality and constant quantity of light at all times is one which will not be fully appreciated by the operator who has not been in possession of it. The fact that beams of light from six sources meet at an angle of more than 45 degrees naturally cuts out all the shadows which obscure the depths of certain wounds. This will be especially appreciated in certain common-duct operations, pelvic procedures, attempts to reach the root of the gasserian ganglion, and others of like nature.

400 Metropolitan Building.

OPERATING DEPARTMENTS FOR MODERN HOSPITALS

WHICH PROVIDE FOR SPECTATORS WITHOUT DISTURBING THE HOSPITAL SERVICE AND PERSONNEL

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Clinical surgeons owe to their results as well as to their students, visitors and guests, facilities for observing their work that do not conflict or interfere with the operating-room technic. These advantages, when provision for them is attempted at all, are usually annulled by a mixing of all parties, to the discomfort of most of those concerned and the detriment of the patient. Since the custom of visiting the work of other surgeons has become so well established, this glaring defect is strange in these days of striving for perfection in operating arrangements when it can be so easily remedied.

The new operating departments which are being added to old hospitals, and all of the new institutions, should provide the best possible facilities for visitors, so arranged that they may come and go in the clinics without friction of any sort, and without being gowned.

This can be accomplished by a separate and preferably outside entrance and exit for all not connected with the hospital. This entrance and exit should lead into a room provided with water cooler, telephone, closet, and lavatory conveniences, which serves as a cloak-room and lounging-room; here the visitor should find a bulletin of the operations scheduled for the day, and each case should show the hospital number, so that one can write afterward and ascertain the result in cases in which one is specially interested. This room should connect with the space reserved for spectators,

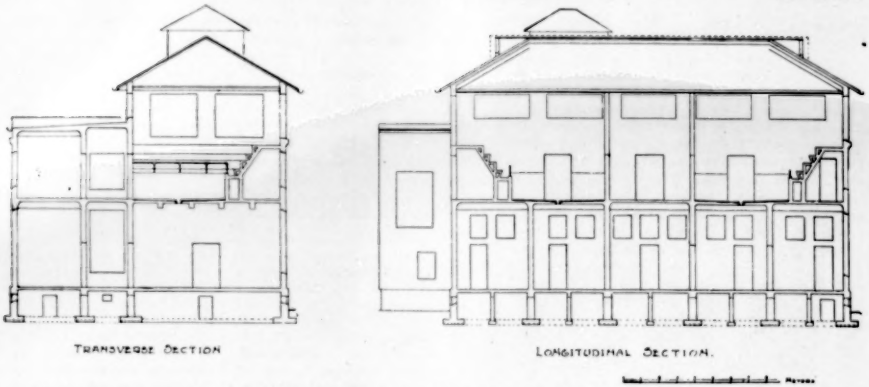
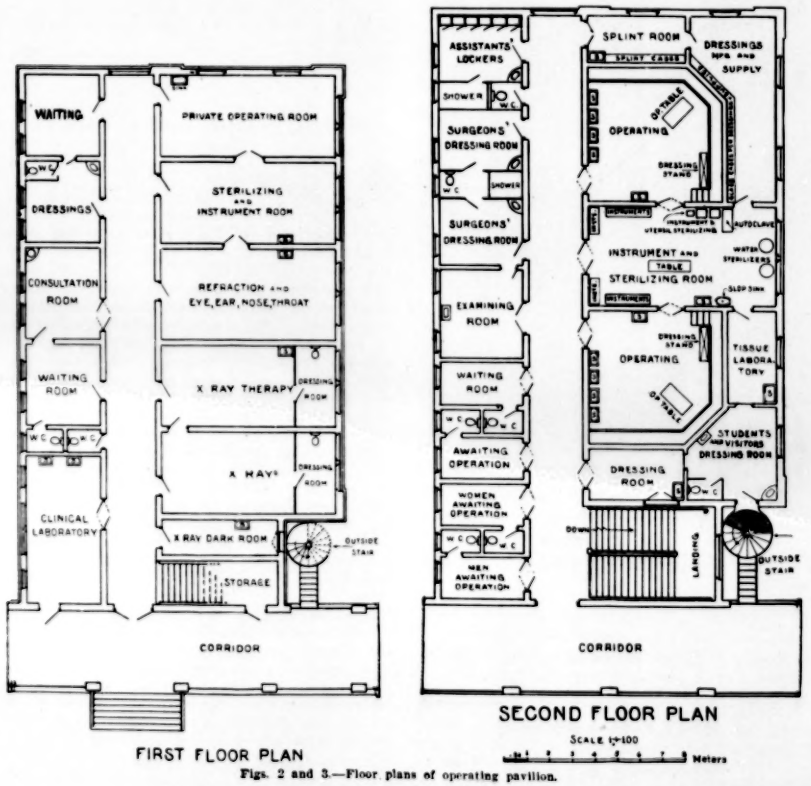


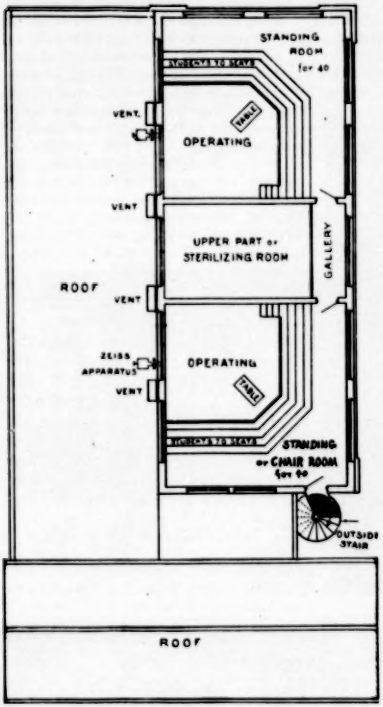
Fig. 1.—Operating pavilion of the Philippine General Hospital, Manila, P. I., of which Dr. McDill was formerly chief surgeon. Plan drawn by William E. Parsons, consulting architect, under the direction of Dr. McDill.



Figs. 2 and 3.—Floor plans of operating pavilion.

and each such space should connect with every other operating-room in the building by bridges (Fig. 6) or galleries several feet above the operating-room floor, and by stairs to those below or above. The seating arrangements for these amphitheaters should never resemble the old type, with its enormous waste of space, designed for spectacular performances and modeled after a Roman coliseum or a Spanish *plaza de toros*. Each visitor up to 100 ought to be provided with a seat from 6 to 25 feet from the operating-table. The accompanying tracings (Figs. 1 to 4) are from a plan which has proved very satisfactory, and the vertical section shows how each spectator is provided with a seat close to the operator. From this seat, which can be reached through a special outside entrance, the visitor can retire at any time without disturbing the hospital service in the slightest, as can be seen on the floor plans. No chairs are provided, the visitors sit on the bare painted concrete benches or steps which are projected forward in such manner as to tier the rows of spectators almost vertically above each other. When these rows are filled, the feet of each man from the second row upward rests on the seat of and between the two men immediately below him. This breaks straight rows so that the head of the person below and in front does not interrupt the view of the one just behind and above him. Although the seats are hard and there is no pretense at comfortable backs the positions are not found to be irksome, and the level space above allows the spectator to stretch a bit and move about.

For small hospitals a four-foot space railed off along the outside walls of the operating-rooms and leading across the sterilizing or other intervening rooms will be ample in which to place observation stands, which will accommodate about fifteen persons each. These stands are 30 inches wide, 66 inches high and 114 inches long.



GALLERY PLAN

Figure 4.

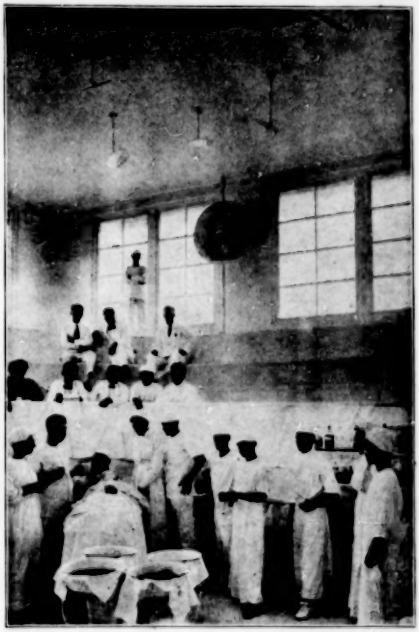


Fig. 5.—View of one operating amphitheater showing the target of the Zeiss illuminating device containing eight distributing mirrors, each of which catches part of the shaft of light from the 30-ampere search-light, and reflects it to a corresponding mirror attached to the ceiling; thence they converge to the desired spot on the operating-table; only five of them show in this illustration, and the horizontal light distributing mirror for perineal work is concealed by the anesthetist.

Another feature which will commend itself to the clinic visitor is the entire absence of drop lights, cranes, and other apparatus, carrying reflectors, wires, head lights, etc., to block his view. The illumination, arranged particularly for teaching, is by the use of eight converging shafts of clear white electric light (Fig. 5), filtered through water and devoid of heat, which floods the operating field and its depths from as many angles, giving an intensive illumination, without shadows, and revealing to the man on the top seat

the smallest anatomic and technical details that formerly were visible only to the operator. We used the Zeiss device, which was kept in order by the agent under contract, and there was no noise, no heat, no eye-strain and no dust. This arrangement is for use during the day and makes the clinic independent of the weather and light conditions.

The plan here illustrated shows a special operating unit in a pavilion hospital with the outside entrance for visitors in a spiral stairway which is connected with the corridors uniting the pavilions on each floor level. One corner of the operating-room was cut off in order to place the operating-table so that the spectators would be near to both sides and to the end of the table. As recovery-rooms were provided in each surgical ward building, no space for this purpose was set aside in the operating pavilion. It was necessary to provide the large number of waiting-rooms because the patients who came to the clinics were of so many different nationalities.

Fig. 6.—Sterilizing and instrument-room between the two operating-rooms showing the high bridge by which visitors can pass quietly from one room to the other without conflicting in any way with the operating-room personnel.

470 Jackson Street.

What a High Infant Mortality Means.—A high infant mortality-rate is of grave moment not only on account of the pain, suffering, worry and economic loss it entails, but particularly because it is an evidence of the antenatal and postnatal environments to which those that survive are also exposed. The physical resistance and mental capacity of childhood, the moral stamina of adolescents, are directly influenced by the health and nutrition of the first two years of life. If we believe that the most valuable asset of this community is the health and character of its youth, we cannot longer question the urgency of making the conservation of infant life a special function of our municipality in a department of child hygiene in the city, county or state.—Julius Levy in Report of the Public Welfare Committee of Essex County, N. J.

FRACTURE AND ORTHOPEDIC TABLE*

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This table has been designed to provide for the suspension and immobilization of the lower extremities and trunk, without moving or lifting the patient in any way, and to afford reliable support and traction of the lower limbs in the treatment of fractures.

As the illustrations show, this table (Fig. 1) has a flat top, in the center of which is placed a hip-rest, *D*, set practically flush with the surface of the table. The top is made in two sections. The smaller one, *A*, for the support of the head and chest, is mounted on four small wheels, so that it can be moved along the bars, *C*.

The longer section, *B*, rests on four short legs, which act as levers so that it can be lowered, leaving Section *A* and the hip-rest projecting (Fig. 2). A slot cut in the center of Section *B* provides for the passage of the hip-rest post through the folding top. Hanging downward from the foot of the table is a lever, *F*, which automatically locks the top when it is up. Pressing upward on this lever releases the lock. Close to this lever is a handle, *H*, by which the top is lowered and raised. The hip-rest is fitted with two perineal traction posts, a short one, *I*, and a longer one, *L*, with swinging arms from which a sling can be hung to support the knee or thigh and prevent sagging (Fig. 3). To the sides of the table frame are attached extension bars, *J* (Fig. 3), which can be placed at any degree of abduction. On the bars are foot-pieces to which the feet can be bandaged and traction applied.

It will be seen that this table is simple in principle and in construction. There are no gears, cranks or other complicated parts. Its operation requires no practice or instruction. The patient is placed on the table as for any operation or manipulation of the lower extremity requiring immobilization. After the manipulative or operative work has been completed, the legs are placed in the desired position and held there, either by assistants or by the extension foot-pieces (with or without traction). The top is then lowered, leaving the patient securely suspended in convenient position for immobilization in plaster of Paris. It is only necessary before lowering the top to see that the patient rests properly on the hip-rest and head-rest. The latter, being movable, can be adjusted to suit different subjects. After the plaster has been applied the top is raised again to its original position. The feet may be fastened to the traction apparatus, if it is desired, for the purpose of steadying the legs or procuring extension.

USES AND ADVANTAGES

The uses to which this table is fitted are:

The application of plaster of Paris in the treatment of joint diseases, etc.

The treatment of fractures of the lower extremity by the closed or open methods as a means of obtaining strong, uniform traction, maintaining reduction and preventing displacement.

* Presented at the New York Academy of Medicine, Orthopedic Section, April 18, 1913.

The operation of joint resection, osteotomy, osteoplasty, etc.

Whitman's abduction treatment of fracture of the neck of the femur.

The application of plaster jackets (Fig. 4).

Its advantages are:

Its simplicity.

The flat top, which is serviceable for almost any kind of work.

The doing away with lifting patients on a hip-rest, which is awkward and difficult to do without disturbing the position of the extremities, releasing traction and displacing the bones.

The elimination of much of the assistance usually required to handle these cases.

The facts that the legs can be accurately placed, maintained and immobilized in a given position without moving them in the least; that in place of unsteady, manual pull, reliable and uniform traction can be had; that it makes a general orthopedic table because it is serviceable for a v riety of plaster work.

An experience of several weeks has already demonstrated the practical usefulness of this table. Besides the routine application of hip spica and jackets, I have used it in one case of bone plating of the femur, in

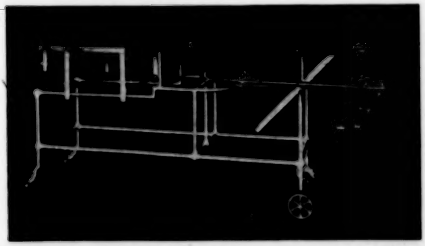

Fig. 1.—Table showing flat top made in two sections, *A* and *B*. Section *A*, the head-rest, is mounted on small wheels which rest on the runners *C*. Section *B* is supported on four short folding legs. The hip-rest, *D*, on the post *E* projects through a slot cut in the top. The lever *F* locks Section *B* in the position shown. By lifting this lever Section *B* can be folded down on the frame, as in Figure 2.

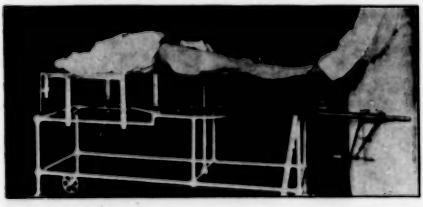

Fig. 2.—Patient on table after top has been lowered. The distance between hip-rest and head-rest can be regulated by sliding the latter along the runners *C*. After plaster of Paris has been applied section *B* is raised again, as in Figures 1 and 3. Two sizes of sacral supports are used, one for adults and one for children. Perineal post indicated by letter *I*.

which, by the use of the extension apparatus, it made the work of approximation and retention of the fragments much easier, and eliminated the strain on the plate from the time it was inserted until the limb was encased in plaster. In three cases of fresh fracture of the shaft of the femur, which were put up at once under ether, it has been possible, not only to obtain excellent reduction and overcome the overriding, but to get overextension of from one-half to three-quarters of an inch—to stretch the muscles and prevent retraction, as advocated by Martin.

At the present time I am having an attachment made so that the same support and traction can be applied to the upper extremity. A portable apparatus, similar in

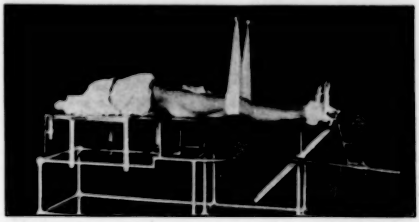

Fig. 3.—Patient on table with extension apparatus bandaged to feet. These extension bars can be adjusted to any degree of abduction and secured by a device at *K*. The perineal post *L* has swinging arms for suspension of thigh or knee. After the legs have been placed and secured as desired, the top is lowered, leg immobilized, and top again lifted to its original position. A peculiar method of bandaging the feet has been devised which holds the heel firmly against the foot-plate and keeps the foot at right-angled flexion The foot is released from plaster by lifting out the foot plate without cutting the plaster in any way. The extension apparatus provides for traction up to 250 pounds.

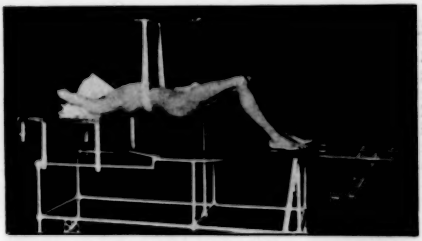

Fig. 4.—Patient in position for application of plaster jacket. Hyperextension of the spine, after the method of Roberts, can be had by raising the sling.

principle to the table, which can be set up on a bed or table, is also under construction.

871 Park Avenue.

Water-Supply in Alaska.—The towns along the southern coast are usually supplied with excellent spring-water which is piped into the houses, while rain and seepage water is used by natives in the villages. In Cook Inlet a number of the settlements have shallow wells which are fairly well protected. On the Yukon the river-water is used for domestic purposes; in winter this is obtained through a hole in the ice. On the Bering Sea both St. Michael and Nome are supplied with spring-water which is piped into the town during four months of the year, while the remainder of the year it has to be hauled from these springs and distributed to the dwellings in buckets. Along the Arctic coast either rain-water or river-water is used in the summer, and melted snow and ice in winter. It spite of the favorable conditions present for contamination of the water-supply, there are no water-borne diseases in Alaska. The few cases of typhoid that have been reported in the territory have been imported into the country from the outside.—E. Krulish, *Pub. Health Rep.*

PROGNOSIS AND THERAPY OF CEREBRAL SYPHILIS *

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The prognosis of cerebral syphilis depends on a prompt diagnosis, for the earlier a case comes under observation the easier it is to effect a cure. In many of our cases of cerebral syphilis we hope for recovery or, at any rate, such a degree of recovery as will enable the patient to resume his occupation and lead a useful life. This prognosis is quite justifiable, for it is astonishing how much improvement sometimes occurs under proper treatment, even in comparatively hopeless cases. Power and Murphy[1] say, "There can be no question of the beneficial influence of early treatment;" and all writers agree on this point. Fournier, Lang, Oppenheim, Hjellman, Max Nonne and others believe that nervous affections are more likely to occur when treatment has either been insufficient or not practiced at all.

Recovery can be expected only so long as specific changes in the tissues are the sole ones present, the atrophy of the cranial nerves produced by compression and the softening due to occlusion of the arteries not being developed. If the general cerebral symptoms are accompanied only by signs of gummatous neuritis, complete recovery may take place. It may often be shown to have done so by the condition of the eyes, although some defect may be left behind. Thus, optic neuritis or choked disk may completely pass away, while marked atrophy may remain. The most responsive to treatment are cases of meningitis, cerebral or spinal, or cerebrospinal syphilis, provided the symptoms point to irritation rather than paralysis; if there be associated monoplegia or hemiplegia, aphasia, apraxia, alexia or hemianopsia, even though these conditions be transitory, the prognosis is serious, for they indicate arterial disease, which is less susceptible to treatment than the meningitis.

A meningitis of the base with paralysis of one or more of the cranial nerves will yield to treatment; if the optic chiasma and optic nerves are involved there is a danger of postneuritic atrophy followed by partial or total blindness. Still this condition of basic gummatous meningitis is not so serious if it is taken early before the arteries are affected by endarteritis. Treatment should produce a rapid improvement of the symptoms. The cases of cerebral syphilis with mental symptoms, convulsions, lapses of consciousness and drowsy stupor are generally most serious; permanent improvement is infrequent and complete recovery rare. The most unfavorable are those which simulate general paralysis, for it indicates a wide-spread syphilitic meningitis of the convexity. Likewise, cases which indicate softening from arterial occlusion are most unfavorable; probably endarteritis is the most dangerous and most insidious of all forms of cerebral syphilis, but even vascular affections have been cured by antisyphilitic treatment. Advanced disease may occur without producing any very definite symptoms, perhaps persistent headache only, perhaps transitory aphasia, monoplegias or hemiplegias following a faint or fit; if such a case is treated at once the prognosis is much better than later, when the loss of function has become permanent, for this denotes tissue necrosis, and little good can be done toward curing a hemiplegia when contracture has occurred. Too often, owing to a lack of understanding of the pathologic process, a favorable prognosis is given in such a case because it is of syphilitic origin. Nervous tissue once destroyed cannot be replaced. Many cases show that brain syphilis follows on a brain injury. These cases generally respond well to treatment; probably the injury causes a local node or gumma.

Pure basic meningitis or participation of a cranial nerve, the motor oculi, for example, does not indicate a bad prognosis, rather the reverse, for it brings a patient early under treatment. Markedly choked disk may disappear and restoration of sight may be complete under treatment. Progressive neuritic atrophy generally ends in blindness. Basic meningitis is much more favorable when limited to one side; it is frequently, however, associated with arteritis; the prognosis then is bad because occlusion of arteries at the base of the brain may occur and a very small patch of softening in the pons or medulla may lead to serious paralysis and fatal complications. Acute bulbar symptoms are always serious, but when they occur in the secondary stage vigorous treatment may sometimes be followed by very satisfactory results. The most successful cases are those which point to a local gummatous pachymeningitis—cases in which there are no symptoms of loss of function, only headache, localized pain and tenderness, and corteal irritation causing jacksonian epilepsy. Pseudobulbar symptoms are always serious, as they imply that both hemispheres are affected and they indicate a widespread arterial affection with bilateral capsular or cortical softening. Occasionally there may be sudden death from apoplexy due to rupture of a cerebral vessel or thrombosis of the basilar artery. Antisyphilitic remedies have little influence on symptomatic epilepsy when once it has become established. A guarded prognosis should always be given in all cases of syphilis of the nervous system. According to Naunyn only after five years of complete freedom from symptoms can it be asserted that a cure has been effected without any likelihood of further symptoms arising. When we have reason to suppose that the disease is a localized pachymeningitis and the symptoms have disappeared, we can give usually a favorable prognosis. The examination of the cerebrospinal fluid for lymphocytes and the fluid and blood by Wassermann reaction may help much in giving a prognosis, while it may also afford information as to the beneficial influence of the treatment. The lymphocytes may entirely disappear from the cerebrospinal fluid for a time under the influence of treatment, and then there may be a reappearance, just as there may be a fresh eruption on the skin.

In many cases of cerebral syphilis, even when there has been systematic treatment, the patients are only incompletely cured; the incompleteness of the cure is shown not merely by the fact that the patient is left with mental enfeeblement or some degree of paresis or paralysis, but also by the fact that, after months or years, quite suddenly convulsive seizures or psychic troubles may reappear. These recurrences are of evil omen; as a rule, specific treatment has far less influence than in former attacks. A progressive dementia, and attacks of drowsy stupors indicate extensive disease and the prognosis is always very grave.

The prognosis runs parallel with the duration and treatment of the nerve affection, and we must consider these two points as the most important for prognostic valuation, beside which the rest fall into the background.

* Read before the Society for Nervous and Mental Diseases of Washington, D. C., at a Symposium on Syphilis of the Central Nervous System held March 20, 1913.

1. Power, D'Arcy, and Murphy, J. Keogh: A System of Syphilis, 1910.

There is no apparent difference in the effects of sex and age with regard to the prognosis.

Finger,[2] in his report of 170 cases of syphilis treated with salvarsan, reported seven cases showing affections of the optic and auditory nerves coming on at periods varying from a few hours to months after treatment. He considered them examples of a neurotropic action of the drug. Mucha, in a later communication, reported thirty-seven similar cases. The contentions of Finger immediately aroused wide-spread discussion, and in the past year a very large number of these cases of affections of the cranial nerves after salvarsan have been reported. Ehrlich,[3] from the beginning, held that these affections of the cranial nerves were due, not to a toxic action of salvarsan, but to a syphilitic meningitis developing from foci of spirochetes in the central nervous system which had not been reached by salvarsan. He gave this form of relapse the name *Neurorecidiv*, or nervous relapse, and considered that the increased frequency of such relapses was due merely to a closer observation and, therefore, more frequent recognition.

The best therapy of the nervous relapse consists in its prophylaxis. This should naturally begin with the treatment of the primary affection. The primary stage offers very little, if any, chance of danger for the later outbreak of the nervous relapse. The views of the most prominent students of syphilis now agree that the primary affection should be treated with great energy and all means at one's disposal, without awaiting the outbreak of secondary symptoms. Numerous cases which received preventive treatment and have for months remained free, not only from any nervous relapse but also from all relapses, while the Wassermann reaction in the blood was constantly negative, give us complete proof that a thorough therapy in the primary stage succeeds in carrying into effect a *therapia sterilisans magna*. Similar demands, perhaps even to a greater degree, are made by the early secondary stage which, as has been seen, is especially dangerous in the nervous relapse. That the salvarsan treatment as heretofore used did not fulfil the demands of an energetic treatment has frequently been said and proved by the experiences of Bayet, Desneux and Dujardin, who made intravenous injections of much larger doses at brief intervals, but were not satisfied with the disappearance of the manifest symptoms, looking on the constant negativism of the Wassermann reaction as the goal of their therapeutic exertions. According to experiences at hand repetitions of intravenous injections of increased doses seem to be without danger, for the sometimes threatening side effects which followed the intravenous injection and were formerly looked on as toxic symptoms have been proved due to some other sources than the effect of salvarsan. It is Wechselmann's merit to have discovered and emphasized that common distilled water contains a quantity of germs, which, it is true, are killed by subsequent sterilization, but the incorporation of these dead bacteria into the organism through intravenous injection causes in it a protein poisoning which is evidenced by vomiting, diarrhea, chills and fever. Wechselmann observed none of these symptoms after he used water freshly distilled just before the injection. Hüfler, Herbsmann, Marshalko and Galewski confirmed Wechselmann's theory. It is therefore absolutely necessary, in order to avoid these secondary effects, to use only water freshly distilled for the intravenous injection.

2. Finger: Wien. klin. Wchnschr., xxiii, 1910.
3. Ehrlich: München. med. Wchnschr., lviii, 1911.

But the elimination of these side-effects is not only of immeasurable importance for the momentary health; it has, according to Ehrlich's[3] view, other no less important consequences. The reaction which frequently followed former intravenous injections caused a reversal in the pharmacodynamic qualities of the salvarsan introduced into the body. Its spirillotropic power decreased, while its organotropic power increased. In this way the therapeutic action on the one hand is lessened, while on the other the organism is more affected and rendered more susceptible to subsequent injections. The avoidance of Ehrlich's so-called "water-error" is, therefore, the *petitio principii* of a rational intravenous salvarsan therapy. The lasting results of the future must show whether this alone is to be employed in increasing doses, or whether it is to be used in combination with mercury preparations as Hoffmann, Neisser, Gennerich, Kromayer, Toulon, Löwenberg and many others have recommended and done. Even before the salvarsan epoch Ehrlich recommended a combination therapy for trypanosome diseases and only lately he thus explained his reasons for this recommendation:

> **In order to weaken the parasites as much as possible the treatment with two remedies simultaneously instead of only one, is to be recommended. . . . The combination therapy, however, has another advantage, namely, it prevents the imperviousness of the spirochetes to any one drug. . . . The combination therapy is, at the same time, the transition to the question whether it is possible in any manner to meet the genesis of this imperviousness. The difficulty of deciding this question has been pointed out by experiments on animals. In Minkousky's clinic at Breslau it was observed that a case of malaria tertiana was no longer influenced by quinin, a treatment with small doses of salvarsan after a few weeks caused the fever to vanish. When the fever reappeared it was seen that it might be influenced in the most beneficial manner by quinin. It would therefore seem as if the interpolated salvarsan injections had destroyed the imperviousness of the parasites to quinin. Such observations have been extremely frequent in the therapy of syphilis within the last year. Cases which could no longer be influenced by mercury promptly yielded to it after an intermediary treatment of salvarsan, insufficient for sterilization. We may therefore hope that it will be possible to destroy an existing imperviousness of the parasites to some definite chemical by treatment with another or perhaps to prevent the genesis of such imperviousness by a simultaneous combination treatment.**

In practice this combination therapy may naturally be carried out with many variations. Gennerich, for example, gave some calomel injections before the salvarsan injections. Arning proceeds in the following manner: He follows an intravenous injection of 0.4 to 0.6 gm. after six days by an acid intramuscular deposit of 0.6 gm. and then adds an energetic inunction treatment. In this way he succeeds in eliminating the disease in cases in their primary stage, and in preventing nervous relapses for a long time in secondary cases. Fabry's process is to give an intravenous injection of from 0.4 to 0.5 gm. and immediately afterward 0.1 gm. mercuric salicylate intramuscularly. After three days this dose is repeated, then followed by six mercuric salicylate injections with the patient ambulant; so that altogether from 0.8 to 1.0 gm. salvarsan and 0.8 gm. mercuric salicylate are administered. Further study alone can show which method should be chosen. Fabry himself observed no more nervous relapses since the introduction of this therapeutic treatment.

The treatment of the nervous relapse itself must, in like manner, answer the demands for powerful treatment, to which we must add rapidity of interference,

As we have seen, the acute stage of the nervous relapse is often preceded by weeks of prodromal symptoms of the most varied kinds. Headache is the most marked characteristic of this period. A long-continued headache which shows the qualities we have learned to know from the symptomatology demands the closest attention on the part of the physician and requires the immediate inauguration of a specific therapy just as much as the other alarm symptoms—vertigo and roaring in the ears. The admonition of Charcot to "strike quick and hard" must be obeyed and no time wasted in symptomatic treatment. But at this stage of the prodromes it will perhaps be more practical not to carry out the axiom "strike hard," by administering large doses, but to gain an aggregate effect by more frequent intravenous injections of small doses. Sicard, Bizard and Gudman have lately mentioned a case very instructive in this regard:

A man, 39 years old, had a primary affection in February, 1911, which was not treated and was followed in April by a severe papular exanthem. April 15 he was given 0.4 gm. salvarsan by intravenous injection. Two days later, headache, vertigo and roaring in the ears set in, which continued up to May 6 and were thought to be due to syphilis, for which reason the patient on that day was given another intravenous injection of 0.5 gm. salvarsan. From the next day on the headache, vertigo and roaring in the ears increased and six or seven days after the second injection there developed, in about sixty hours, paresis of the acusticus, facialis and oculomotorius and a double neuritis optica with marked disturbance of sight. From May 6 to June 14 the patient remained without treatment, but again entered the hospital on the latter date. The Wassermann reaction in the blood and fluid was strongly positive, the cerebrospinal fluid very cloudy under high pressure; there was extraordinarily marked lymphocytosis; eosinophilous cells very numerous—6 per cent. Spirochetes could not be found. The treatment was now administered in the following manner: Twice a week, 0.1 gm. salvarsan by intravenous injection; on the intervening days intramuscular injections of 0.02 gm. mercuric benzoate daily, 2 gm. potassium iodid by mouth. The patient thus received in three weeks seven intravenous salvarsan injections, the first five 0.1 gm. each, the last two 0.3 gm., 0.24 mercuric benzoate in twelve injections and 30 gm. potassium iodid. Under the influence of these three medicines the symptoms rapidly retrograded to a slight ptosis and rigidity of both pupils. The cerebrospinal fluid became clear, but still contained very many lymphocytes. The Wassermann reaction in the blood and fluid was still positive.

The authors decided from the course of the disease in this case that whenever there are alarming symptoms, long-continued headache, vertigo and roaring in the ears, small doses of salvarsan administered twice a week for several weeks in connection with mercury and iodin should be substituted for the intensive treatment.

This manner of procedure should be especially used for older persons and such individuals as show any deterioration of the vascular system, alcoholism or nicotin abuse.

The acute nervous relapse, however, demands the greatest measure of rapidity and intensity of treatment. Here any omission of a quickly inaugurated therapy may lead to irreparable changes in so important an organ as the central nervous system. From statistics we see that just those cases in which a quickly inaugurated treatment was neglected showed no amelioration or cure. Affections of the acusticus are especially pressing in their demands, as, according to the unanimous view of otologists, this nerve is especially liable to degenerate rapidly. The treatment regimen of the nervous relapse will have to be governed by the same maxims which we have before explained. Besides the somatic conditions the anamnestic antecedents are of the greatest importance; patients who have in earlier life passed through any brain affection, as for example meningitic phenomena or brain symptoms subsequent to a head trauma, need closer observation. The mode of life and the actions of the patient after the injections are likewise to be regulated most carefully. Naunyn demands that even inunction cures of brain syphilities should be taken with complete rest in bed. This rule must be observed all the more after salvarsan injections if severe subsequent phenomena, such as Mann lately described, are to be avoided. Not only every alcohol excess but even all use of alcohol is to be strictly forbidden.

In cases with prodromal symptoms and pronounced nervous relapse it is advantageous to use iodin in the form of potassium iodid with the salvarsan and mercury; in fact, if it can be borne the potassium iodid should be administered in not too small and increasing doses, up to 6.8 gm., or even 10 gm. daily. Great attention should also be bestowed by a regulation of the diet on the metabolism and the functions of the liver and kidney.

The efficiency of the modern treatment of lues is attested by hundreds of experienced observers all over the world; since its introduction several modifications in the technic have taken place. Subcutaneous and intramuscular injections have entirely given way to the intravenous method. By some the muscular injections are considered the more efficacious.

In syphilis of the nervous system the administration of salvarsan should be undertaken only with the full knowledge of the possible effects. That great prudence must be exercised was taught by the accidents which occurred during the trial period of the drug in patients with advanced disease of the nervous system. Professor Ehrlich is of the opinion that the former dreaded reactions in late lues of the nervous system are to be referred entirely to faulty technic and the use of old water containing the proteid products of dead organisms. Dreyfuse has treated hundreds of cases of late nerve syphilis without any reaction whatever, except in a single instance in which a spinal puncture had been made just prior to the salvarsan injection. In this patient the puncture was followed by meningeal manifestations lasting several days. When the injection was delayed until such symptoms had subsided, absolutely no by-effects were noted. In syphilis of the brain the possibility of the development of the Herxheimer reaction should always be kept in mind. Although we have no pathologic findings in such cases, the occurrence of convulsions and localized paralyses after the administration of the drug points to an intensification of the inflammatory process about certain focal brain lesions, which in the majority of cases is only transient. In cases in which the remedy is indicated it should be given cautiously in small repeated doses or preceded by several injections of mercury. In this way a gradual effect on the lesion is produced and we avoid a too rapid dissolution with dangerous consequences.

In cases of meningitis or involvement of the cerebrospinal system the patient's susceptibility should be cautiously tested with small doses. Owing to its less irritable properties neosalvarsan lends itself more readily to intramuscular use. For this purpose 0.9 gm. dissolved in about 30 c.c. of water is used. Schreiber has observed edema after its use, but never infiltration or necrosis. He prefers, however, the intravenous method. Two weeks after treatment the Wassermann reaction is

to be taken and, if negative, is to be repeated at monthly intervals. If it becomes positive, an intensive course of mercury is to be inaugurated, followed by two more injections of neosalvarsan. If it is still positive two weeks after the first series of injections, the preceding plan is to be put into immediate effect. Serologic observations for at least a year after the first negative reaction has been obtained should be insisted on and carried out.

Gennerich employs the more intensive combination therapy from the beginning and controls his cases by means of provocative treatment or the biologic reactivation of the Wassermann reaction. Both Gennerich and Miliau found that if patients were injected with 0.3 gm. of the remedy six months or a year after a supposed cure and their blood examined every day thereafter for two weeks a transient reaction was procured if any evidence of the infection was left, while it remained negative if cure was absolute.

The treatment of syphilis consists no longer in the control of the symptoms, but should be undertaken with a full appreciation of the serious nature of the infection. It should be undertaken with a thorough understanding of what is to be accomplished with the remedies employed. The amount of treatment in lues can not be arbitrarily fixed, as the infection varies within wide limits in different individuals. In some its course is so mild that it is possible to eradicate it with a minimum amount of drugs, while in others—and they are in the majority—it persists with treatment increased many fold.

Benario[4] says that the time over which our observations extend is as yet too short, in comparison with that, for example, which Naunyn has used as the basis of the prognostic valuation of his cases. Naunyn in his statistics considers only those patients cured who remain free from relapses for five years after the cerebral affection. Benario records 83 per cent. of recoveries and 8 per cent. ameliorations—together 91 per cent., which far outstrips the numbers given by Naunyn and Nonne. In the majority of his cases a series of months—almost a year—has passed in which the cure lasted, so that the hope exists that it will be permanent. The high percentage of cures is no doubt due to the fact that the affections, as soon as they appeared, were put under immediate and thorough treatment.

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THE CUTANEOUS REACTION IN SYPHILIS

SECOND REPORT

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So uniform have been the published results on the specificity of the luetin reaction (Noguchi) in syphilis that it now remains for the clinicians to accumulate larger numbers of tests on syphilitic cases in order to ascertain wherein the luetin test is of the greatest and also of least value. In a former publication, the importance of the luetin reaction in the later stages of syphilis was demonstrated on a small number of cases. The present report is based on one hundred cases of syphilis, and aside from a few details confirms what has been done previously by myself and others.

4. Benario: Ueber Neurorecidiv, Munich, 1911.

Parallel with this work, there have recently appeared the observations of Fischer and Klausner who have prepared a sodium chlorid solution extract of fresh tissue from the lungs of children dead of pneumonia alba. The technic employed in the luetin reaction was closely followed by these authors. They found not only that their extract was specific for syphilis, but also that it was most useful in the late hereditary and in the tertiary stages; in the primary and secondary stages the reaction was uniformly absent. It is of interest to note that twenty cases of progressive paralysis all reacted negatively. While this preparation may be made more easily than the luetin, the latter has several important advantages, among which may be named:

1. Pure cultures of many separate strains of spirochete are alone employed.

2. The metabolic products only and no tissue extracts are present in the final product.

The same precautions and technic described in my previous paper have been rigidly followed in this series, which comprises 158 cases, 100 of which were syphilitic and 58 were used as controls.

It is only after many inoculations have been done that any reliability as to the technic and interpretations of the reactions can be placed. For example, many patients who were inoculated presented what at first sight appeared as positive reactions, but which on closer inspection were only areas more or less inflamed, but with no infiltration whatever. This type of reaction rapidly subsides and within seventy-two hours has disappeared.

At the Presidio General Hospital in San Francisco, Major Brooks, who has had considerable experience with the luetin reaction, says in an unpublished communication: "Our experience with the luetin at this hospital has been particularly gratifying, especially in the tertiary cases associated with a negative Wassermann reaction."

In general, the types of reaction, that is, the papular, vesicular, pustular and torpid forms, were found to be the same as previously described. To this may be added a fifth, the hemorrhagic variety, which was found in two cases only. Each patient presenting this type of reaction was suffering from myocardial insufficiency primarily due to a syphilitic cardiopathy. The reaction was delayed till the third to the fifth week, when a hemorrhage pustule formed, discharged and dried up, but which recurred four to six weeks later and discharged a hemorrhagic material. In both cases the contents of the pustule were sterile for the ordinary pyogenic organisms. Little pain or swelling was complained of in those cases. The reaction over the control site of injection or *Umstimmung* was present in a fair percentage of cases.

CONTROL CASES

The fifty-eight patients in the control series included medical, dermatologic and neurologic cases such as senile dementia, gastric ulcer, psoriasis, eczema, etc. Only two of these reacted suggestively. Over both the luetin and control sites slight inflammatory induration was made out at the end of forty-eight hours, which practically had disappeared before ninety-six hours.

This type of reaction, to one inexperienced in reading the tests, might give rise to some uncertainty in their interpretation; but when one has studied a large number of these reactions, no difficulty should be encountered if reading is delayed until the fourth to the sixth day. In these suggestive cases it is well to repeat the tests.

In both the cases cited the patients were reinoculated with the luetin; the reaction proved to be unquestionably negative.

SYPHILITIC CASES

One hundred cases of syphilis were tested in this series including eight congenital, one primary, five secondary, twenty-six tertiary, seventeen latent and forty-three parasyphilitic.

Congenital Syphilis.—The ages of the eight patients in this group ranged between 5 months and 5 years. Wassermann reaction in each instance was positive after salvarsan had been administered at least once and in one case twice. The luetin reaction was positive in six patients, or 75 per cent. of the treated cases. One child 5 months of age was inoculated the day the salvarsan was given, and she reacted negatively. A reaction over the site of injection of the control solution (*Umstimmung*) did not appear in any case. The reactions appeared about the third day and subsided quickly without much general or local disturbance.

Latent Syphilis.—The Wassermann test in latent syphilis is, aside from the examination of the cerebrospinal fluid, the only criterion for a positive diagnosis. In a recent article, Craig found that in 778 cases of latent syphilis, only 65.4 per cent. gave positive Wassermann tests. Of the sixteen cases of latent syphilis inoculated, eleven gave positive Wassermann reactions for the blood-serum, and only one out of six for the cerebrospinal fluid.

In striking contrast to this, sixteen, or 100 per cent., reacted positively to the luetin test. Twelve of these showed reactions in the control site (*Umstimmung*). No delayed reactions were noted.

Parasyphilis.—The patients in this group numbered forty-three, divided between cardiovascular syphilis (twenty-five) and central nervous system syphilis (eighteen). The latter variety attracted particular attention because every case was receiving intensive arsenical or mercurial treatment at the time of the test. Sixteen, or 64 per cent., of the cardiovascular syphilities gave positive Wassermann tests. Twenty-two, or 88 per cent., gave positive luetin tests. *Umstimmung* appeared fourteen times and two reactions were delayed till the twentieth day. As a rule a history of syphilis was given in these patients. Fourteen of the eighteen patients with central nervous system syphilis were tabetics in different stages; two had taboparesis and two showed optic atrophy. Positive Wassermann reactions were obtained in twelve, or

TABLE SHOWING RESULT OF WASSERMANN AND LUETIN REACTIONS

Stage of Syphilis	No. Cases	Wassermann: Blood: Positive: No.	Wassermann: Blood: Positive: %	Wassermann: Blood: Negative: No.	Wassermann: Cerebrosp. Fl.: Positive: No.	Wassermann: Cerebrosp. Fl.: Negative: No.	Luetin: Positive: No.	Luetin: Positive: %	Luetin: Neg.: No.	"Umstimmung" at Control Site: Pos.: No.	"Umstimmung" at Control Site: Neg.: No.	Delayed Reaction, Day
Congenital	8	8	100	0	*	*	6	75	2	0	8	0
Primary	1	0	0	1	*	*	0	0	1	0	0	0
Secondary	5	5	100	0	*	*	3	60	2	1	4	0
Tertiary	26	21	80	5	2	9	25	96	1	17	9	2-12
Latent	17	11	64+	6	1	5	17	100	0	12	5	....
Parasyphilis	43	..	....	..	..	..	..	....	..	..	..	....
A. Cardiovascular	25	16	64	9	..	..	22	88	3	14	9	2-20
B. Central nervous system	18	..	....	..	..	..	..	....	..	..	..	....
Tabes dorsalis	14	8	57	6	3	11	13	92	1	9	5	1-6
Taboparesis	2	2	100	0	2	0	2	100	0	2	0	0
Optic atrophy	2	2	100	0	0	2	2	100	0	2	0	0
Non-syphilitic cases	58	0	0	48	0	6	0	0	58	0	58	0
Total	158	..	....	..	..	..	..	....	..	..	..	....

* Not done.

Primary Syphilis.—One case only was tested; the chancre had appeared four days before and *Spirochaetae pallidae* were shown present by the dark-field illumination. Both the Wassermann and the luetin reactions were negative.

Secondary Syphilis.—The Wassermann test was positive in the five cases of secondary syphilis tested. Only three of these reacted positively to the luetin. Each of the three patients had been given one dose of salvarsan previously and the cutaneous manifestations had faded to a fair degree. Only one patient reacted violently, but no constitutional symptoms were noted. Thus it appears that treated secondary syphilitics are apt to react to the luetin proportionately to the amount of treatment.

Tertiary Syphilis.—Twenty-six cases of tertiary syphilis are included in this series. Twenty-one of these gave positive Wassermann reactions in the blood-serum, and only two of eleven in the cerebrospinal fluid tested. Four of the five patients reacting negatively to the Wassermann were being or had been treated with antiluetic medication for varying periods. This type of case, presenting the outspoken or suspicious syphilitic lesions in which the Wassermann reaction is continuously nega-

66 per cent., for the blood-serum, and 38 per cent. in cerebrospinal fluid. The luetin reaction was present in seventeen cases, or 94 per cent. One outspoken case of tabes dorsalis which had a negative Wassermann had a negative luetin test on two inoculations two months apart. Another tabetic gave a double-plus Wassermann test at the time of the first luetin injection, which was negative. This patient had had three doses of 0.6 gm. salvarsan. Two months later the second luetin inoculation gave a very typically positive reaction. One case of syphilitic myelitis presenting a Brown-Séquard syndrome gave positive Wassermann and violent luetin reactions and cleared up wonderfully under salvarsan.

ANOMALIES IN THE LUETIN REACTION

Four months after one syphilitic cardiac patient was inoculated there appeared at the site of the luetin injection a large hemorrhagic pustule which discharged its grumous contents and healed up, leaving a pigmented scar. There was no pain or redness attendant on this. No cause was ascribed to this manifestation.

It is also interesting to note that in one dermatologic case, in which syphilis was merely suspected, and which before inoculation gave a negative Wassermann test, after inoculation a positive Wassermann reaction was obtained. This is but an isolated instance, but it raises the question whether or not a positive Wassermann may be caused by the administration of luetin. Further observations on this subject will have to be made before any definite conclusions can be drawn.

CONSTITUTIONAL REACTIONS

In this series of one hundred cases there were but two general reactions and these merely took the form of swollen axillary lymph-nodes and slight tenderness of the upper arms. The infrequency of constitutional reactions may be explained by the fact that the luetin now employed is much purer and more concentrated than that previously distributed. The dose administered now is but 0.07 c.c. in contrast to the dose of from 0.1 to 0.12 c.c. used formerly.

CONCLUSIONS

1. The results of these observations, and also those of all previous workers with the luetin test, substantiate the specificity of the luetin reaction for syphilis when properly performed.

2. Intensive antisyphilitic treatment in the later stages of syphilis may produce a negative luetin reaction which, after an interval in which treatment is withdrawn, may become positive.

3. Treated congenital and secondary syphilis is apt to give positive luetin reactions.

4. The luetin reaction is especially valuable in parasyphilis, and tertiary and latent syphilis.

5. In any case of suspected syphilis, whether previously treated or not, a negative luetin reaction must be watched for at least four weeks so as not to overlook a delayed reaction.

I desire to express my sincere thanks to Prof. Llewellys F. Barker of the Johns Hopkins Hospital, who proposed this work to me and aided me in every way in it; also to Prof. R. L. Wilbur of the Stanford University Medical Department, who has placed the material of his clinic at my disposal, and to Dr. Harry Alderson, who has followed the dermatologic cases, and to Dr. H. Noguchi who has been so generous with the luetin.

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INTRAVENOUS INJECTIONS OF VARIOUS SUBSTANCES IN ANIMAL CANCER*

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ST. LOUIS

In continuation of our former work, we carried out a study of the action of two classes of substances on carcinoma in mice. First, we investigated the action of some inorganic substances; and, secondly, of various albuminous substances and also of a carbohydrate and a lipoid. We wish to give here briefly the result of our investigations.

Colloidal copper and colloidal platinum acted in a similar manner; both inhibited the growth of tumors during the time of injection. Colloidal sulphur, if active at all, is certainly not more active than either colloidal copper or platinum. On the other hand, easily ionized salts of copper and of lanthanum are without effect on cancer. Combinations of copper with proteid substances are active.

We also tested one organic substance which, according to Morgenroth, is very active in preventing pneumococcus infection, namely, ethylhydrocuprein. We found it without effect on cancer. Of the more complex organic substances we tested the following: various preparations of casein and of nucleoprotein; furthermore, serum globulin, horse-serum, egg-albumin, Witte's peptone protamin, gelatin, lecithin and starch. Of these various substances only the first two named, casein and nucleoprotein, were effective, while all other substances were entirely inactive. One single intravenous injection of either of these two substances destroyed, in a large number of cases, a great part of a tumor; while repeated intravenous injections prevented the growth of the tumor during the period of injection. After cessation of the injections the growth started again in the majority of cases, either immediately or after a period of latency.

The fact that another entirely different substance, namely, leech extract, also exerted a marked action on tumor growth similar to nucleoprotein and casein, but acting apparently somewhat more strongly than these latter two substances, seemed to us of great interest. We observed in a number of cases, after intravenous injection of leech extract, even a retrogression of the tumors, while one single injection caused a liquefaction and necrosis of a great part of the tumor. Also combinations of nucleoprotein and leech extract were effective.

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It seems, therefore, that of the various proteins, carbohydrates and lipoids which we tested so far, only the complex phosphorus-containing proteins are active. Of other substances we found leech extract active and among inorganic substances only colloidal metals.

Very young tumors, from two to six days old, do not seem to be as easily influenced as are those from nine to fourteen days old. Only intravenous injection was effective.

We also investigated the action of some of these substances on experimentally produced placentomas in the guinea-pig and rabbit. We found, usually, after one injection of casein, some hemorrhages and subsequent necrosis; colloidal copper seemed, so far, to be without any marked effect on placentomas. With Dr. Leighton we examined the effect of casein and of colloidal copper on wound-healing in white mice. The intravenous injection of these substances had no marked effect on the process of wound-healing.

In order to study still further the action of the substances we injected a series of normal guinea-pigs intravenously with the various solutions which we had tested in the case of tumors, and we found that one single injection of neucleoprotein, casein, and perhaps egg albumin protamin caused frequently multiple necroses of the liver. The necrotic areas were usually situated midway between the portal and central part of the acinus. Other substances, like gelatin and starch, have not so far caused necroses of the liver in our experience. We notice that there is no absolute correspondence between the action of the various substances on tumors and on the liver. In the guinea-pig some substances which are without effect on tumors cause necroses of the liver. Moreover, we have not been able to observe these necroses in the liver of the mouse, even after repeated injections of those substances.

We have been well aware of the fact that many guinea-pigs which have not previously been injected with those substances may show scattered areas of necrosis in various parts of the liver. The necroses which we find after the injection of the substances mentioned above seem, however, to differ in some respects from the necroses found in control guinea-pigs. We are investigating still further the question of how much of the necrosis found is to be attributed to the injection of those substances and how much is due to other causes. At present, therefore, we do not wish to make our statement in regard to the causation of the necroses in the guinea-pig a definite one.

We think it most probable that the various substances which we found active in cancer of the mouse change the capillaries primarily, increasing their permeability to the various constituents of the blood.

We reported previously that the intravenous injections of colloidal copper exerted a definite action on a number of human cancers, provided they had not been growing too rapidly. These injections of colloidal copper, as we also stated before, can, even in the most favorable cases, at present lead only to a partial retrogression of carcinoma in man. It is noteworthy that while some cases are affected favorably, other apparently similar cases are either affected unfavorably, or very little influenced by these injections. In further experiments carried out in conjunction with Drs. H. N. Lyon, C. B. McClurg and W. O. Sweek, we found that intravenous injections of solutions of casein also may exert a certain inhibiting action on the growth of some carcinomas in man; it is, however, less effective than colloidal copper. In one case of sarcoma of the humerus which we treated, injections of colloidal copper followed by injections of casein produced a decided retrogression and partial calcification of the tumor.

Although we have not so far noticed that the casein has any injurious effect in patients, our observations regarding the possible production of necrosis of the liver in the guinea-pig after intravenous injection of various proteins—observations which we first made in the latter part of March—seem to us to make the use of such proteins in the case of human beings inadvisable at present. We expect to publish a more complete report of our observations concerning the effect of colloidal copper and of casein in human cancer in the near future. There we shall discuss in detail the limitations and the various difficulties in this mode of treatment.

AN ARTIFICIAL AIRWAY FOR SURGICAL ANESTHESIA

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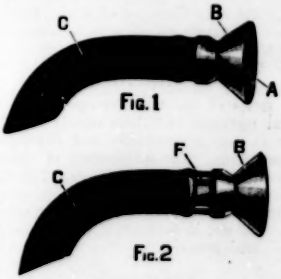
During the past eight months I have used Sir Frederick Hewitt's artificial airway in several anesthesias for which some special method for maintaining a free



Figs. 1 and 2.—Hewitt's artificial airway.

pharyngeal airway was imperative, and also, by way of experiment, in several cases in which the tongue gave no trouble whatever. It is an instrument of great value. The airway as made in England, however, is not adapted for use during anesthesia by open ether, which is the common method of anesthesia in the United States. Therefore I have essentially modified the instrument.

Hewitt's airway (Fig. 1) consists of a somewhat rigid rubber tube, *C*, curved so that when it is in position in the patient's mouth, it will conform to the upper aspect of the base of the tongue. It has its laryngeal end beveled to correspond with the opening into the larynx. At the proximal end a metal funnel-shaped mouthpiece is attached (Figs. 1 and 2, *B*). This has a deep groove so as to enable it to be clutched by the teeth in order to hold it in position.

Of the two forms of breathing, namely, that through the nose and that through the mouth, the latter is of greater value during anesthesia. The purpose of this airway is to establish and maintain oral respiration in cases in which it does not exist. The tube is introduced into the pharynx and respiration takes place through it.

For use with the closed method or with the semi-open (cone) method of anesthesia, Hewitt's airway is

complete in itself and satisfactory. But for open ether I do not consider the instrument to be safe, at least if it is not in the hands of an expert anesthetist; and even with him an accident may happen.

When the airway is *in situ* and the patient is in a supine position with the occiput touching the table or the head turned a little to one side; or when he is in a semirecumbent posture, the funnel-shaped opening is uppermost. Now, if on account of a desire to watch the operation, the anesthetist should pour some ether onto the gauze of the inhaler, which he should never do; or if, because of carelessness or on account of an imperfectly working dropping device, the ether spurts or runs out of the container onto the gauze, then some ether would possibly find its way through the gauze into the funnel of the airway and thence by the rubber tube into the larynx and the lungs. Or, again, if too few layers of gauze are used on the mask, ether may inadvertently be dropped through the gauze down the airway. My first modification obviates this difficulty.

This new tube (Ferguson's modification of Sir Frederick Hewitt's airway, Figures 3 and 4), differs from its predecessor in having the proximal end of the funnel closed (Fig. 3, *D*) and two openings (one on each side of the truncated cone) for the ingress and egress of

Figs. 3 and 4.—Ferguson's modification of Hewitt's artificial airway. The detailed description is given in the text.

air (Figs. 3 and 4, *E*). Thus there can be no danger of dropping ether into the top of the funnel, because it is not open, and since the orifices are in the sides which slope toward the lumen of the tube, and therefore away from the source of dropping, it is almost impossible to get any ether into the tube. Should the patient's cheek be resting on the table, any ether that might enter the upper fenestra would pass across the funnel and out of the lower fenestra, so that it is almost impossible for any liquid ether to enter the airway, no matter what the position of the patient may be.

The second difficulty which I have overcome is independent of any particular method of anesthesia. I have had patients whose buccal cavities were so shallow that when the laryngeal end of the airway was in position the airway projected so far beyond the teeth that they could not grasp the metal end. Such patients would bite the rubber tube *C*, the walls of which would yield to the pressure and the tube become closed. I have lengthened and otherwise changed the metal thimble (Fig. 2, *F*), so that it extends well into the rubber tube *C* without enlarging the middle of the tube (Fig. 4, *G*). Consequently a patient's teeth may clutch the rubber tube *C* anywhere between *G* and the groove near *E* (Fig. 4), and the inside metal tube will resist the pressure, and the lumen of the airway remain open.

This airway should be introduced after surgical anesthesia has been reached. If the patient is not well under the anesthetic, the contact of the tube with the pharyngeal wall may incite gagging. To adjust the airway the jaws should be separated, the tongue brought gently forward and the airway passed back into the pharynx with the convex portion of the curved rubber tube nearest the roof of the mouth. The instrument of itself will then assume a proper position. As soon as the epiglottis and the base of the tongue are thus separated from the posterior wall of the pharynx, inspiration and expiration will take place through the airway, and the jaw or the tongue will not require attention.

This airway is of use in any anesthesia in which, through muscular spasm or an improper position of the patient, the epiglottis and the base of the tongue are forced to approximate the pharyngeal wall, thereby embarrassing respiration. It is of especial value for patients with short or thick necks, and for certain very muscular subjects. It is valuable also for a patient in the Trendelenburg posture, for whom the necessary slight extension of the head cannot be maintained. In short, it is useful to do away with respiratory embarrassment due to any form of occlusion of the extrapharyngeal respiratory tract.

Two sizes of the airway are necessary, one for children and one for adults. The scale of the drawings accompanying this article is two-thirds the child's size, which is 3 inches long between parallels, and the rubber tube 9/16 inch outside diameter. The size for adults is 4 inches between parallels, and the rubber tube is ¾ inch outside diameter.

GASTRIC DILATATION

ITS TREATMENT BY REMOVAL OF GASTRIC CONTENTS, STARVATION, AND REST IN BED

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We speak of gastric dilatation when we can demonstrate an enlargement of the stomach and an impairment of its motor function. It has been customary to distinguish between a dilatation of the first degree, or relative dilatation, by which we are supposed to understand a dilatation which exists only when the stomach contains food, and a dilatation of the second degree, or absolute dilatation, which remains even when the stomach is empty. This differentiation not only is of very slight practical value, but even becomes actually dangerous to the patient if it conveys to the physician the erroneous idea that a dilatation of the second degree is a sort of durable and stable condition which cannot be changed, and consequently leads either to inactivity on his part or to unnecessary surgical interference. On the contrary, the fact is—and the chief purpose of this paper is to call attention to this fact—that the contractility of the stomach is wonderfully well maintained no matter for how long a time or to what degree it has been dilated.

Our failure to take into consideration this latent contractility of a dilated stomach is no doubt the reason for the non-existence of a satisfactory and universally accepted method of treatment for gastrectasia. But as soon as we realize that the dilated stomach is

capable of contracting to its normal size, our sole aim will naturally be to give it an opportunity to contract and put it at complete rest for that purpose. We may accomplish this without difficulty by evacuating the gastric contents, by starving the patient, and by keeping him in bed.

If the principle of this treatment is accepted as correct, the question of lavage in gastric dilatation will be greatly simplified. As the stomach-tube should be used for the sole purpose of keeping the stomach empty, it would be needless to discuss how often and at what time of the day lavage should be given. After the stomach-tube has once been used to remove the stagnant masses, if necessary in conjunction with lavage, it should not be introduced unless there is reason to suspect that fluid is gathering in the stomach either through a continuous gastric secretion or through regurgitation from the duodenum. The former is a complication of frequent occurrence in chronic gastrectasia, while the latter is often met in acute dilatation of the stomach. To give daily lavage as a routine method is liable to be more harmful than beneficial, as the weight of the fluid would tend to retard the contraction of the stomach.

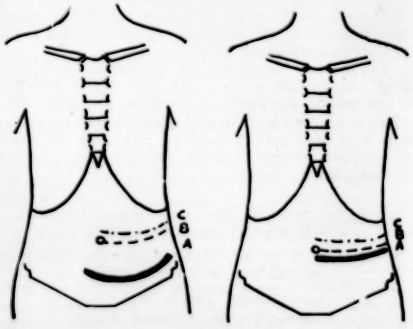

Fig. 1.—Diagram of position of stomach in Case 1: (*A*) greater curvature at time of examination, Oct. 5, 1898; (*B*) point of retraction, Nov. 16, 1898; (*C*) position when patient was discharged April 1, 1899.

Fig. 2.—Diagram of position of stomach in Case 2: (*A*) when first examined, April 30, 1910; (*B*) after treatment, May 23, 1910; (*C*) Aug. 22, 1910, after operation.

For the same reason, the patient should be starved until the stomach has had time to contract. No matter whether a dry, semisolid, or liquid diet is prescribed, any food at all introduced into a dilated stomach will prevent it from contracting. The length of time during which the stomach should be kept free from food depends on the degree and length of time of dilatation. In my experience a period of starvation of from one to ten days has been found sufficient. If perchance the stomach should fail to contract, we can be fairly sure that it is due to adhesions between the stomach and the organs of the lower abdomen or the pelvis, and surgical interference then becomes necessary.

Finally, the patient should be put to bed for two equally important reasons. By keeping the patient in a horizontal position we relieve the dilated stomach from the load of its own weight and, furthermore, by preventing unnecessary expenditure of energy we undoubtedly improve conditions under which the overstretched muscles of the stomach may regain their tonicity. The patient should stay in bed not only during the period of starving but also for some time afterward or until it can be ascertained that the stomach has regained its tonus. This will occur in from a few days to three weeks, according to the seriousness of the case. If the stomach, after having contracted, should again become dilated as soon as ordinary food is given, then we are justified in making a diagnosis of pyloric obstruction, and resort should be had to operative treatment.

REPORTS OF CASES

The following reports of cases will serve to illustrate how readily a dilated stomach will contract if it is only given an opportunity.

CASE 1.—Gastric ulcer; pyloric stricture; dilatation of stomach.

History.—The patient, C. C., was a saloonkeeper, 30 years o'd. When he was 7 years old, he once vomited a large amount of coagulated blood; he stayed in bed a few days, and soon recovered. He remained well from that time until his 29th year, when he began to suffer after his meals from bloating, eructations and occasional vomiting of food. He also began to lose flesh rapidly and weighed only 86 pounds when I saw him for the first time in October, 1898, a year after the first symptom set in. He then complained that all he ate remained in the stomach and fermented until, after several days, he vomited up large masses in which he could recognize food that he had eaten during the previous days.

Examination.—Stomach was found enormously dilated, reaching almost down to pubis, and after the stomach-tube was introduced, about two quarts of undigested food were evacuated. Operation was advised, but refused for the time being. For two weeks the patient was given lavage of the stomach every day and was fed by rectum; but as soon thereafter as he began to take food by mouth, the vomiting began again. He then consented to an operation.

Operation.—Was performed by Dr. Fenger, Nov. 16, 1898. The stomach was found to have contracted considerably and barely reached the umbilicus; the pylorus was almost completely obstructed by scar-tissue. A gastro-enterostomy was made.

Results.—After half a year he weighed 137 pounds and showed no signs of gastric dilatation. He enjoyed good health for seven years, when he began to have attacks of tetany, although he showed no signs of gastrectasia. He finally died in one of these attacks in May, 1907. Necropsy was not permitted.

CASE 2.—Duodenal ulcer; gastrosuccorrhea (Reichmann's disease); pyloric spasm; dilatation of the stomach.

History.—The patient, A. B., laborer, 54 years old, was always well until his 28th year, when he began to have pains in epigastrium half an hour after his meals. They gradually grew more severe and were finally relieved only by vomiting of usually about half a pint of a sour, burning fluid. After two weeks he suddenly became worse, was extremely weak and had tar-colored stools, but did not vomit blood. He remained in bed for ten weeks, and was thereafter well until his 47th year. At that time he began to suffer from periods of constipation and also intense epigastric pains coming on shortly after meals and not relieved until he could vomit food and sour, burning fluid. These periods came on almost every spring and fall for six years and usually lasted a few weeks or a month. Between the attacks he was perfectly well. In the fall of 1909, at the age of 53, he had his usual attack. He did not recover in spite of treatment. All winter he suffered from pains in epigastrium and vomiting and lost 25 pounds in weight.

Examination.—When I first saw him, April 30, 1910, at the Augustana Hospital, he weighed 116 pounds; his stomach was dilated and came down about one finger's breadth below the umbilicus; pronounced splashing sounds could be produced and the stomach became at times very hard and rigid during palpation, the rigidity lasting from one-half to one

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minute. The tube was introduced at once, five hours after his breakfast, which had consisted of two eggs, bread and milk. Six hundred c.c. of a yellowish fluid were evacuated, which had almost no odor and contained some undigested pieces of egg-albumin and no mucus. The total acidity of the fluid was 60 and the free hydrochloric acid was 40.

Non-Operative Treatment.—The patient was put to bed and was given moderate doses of bismuth and bicarbonate of soda and saline laxatives, and was fed by rectum. The stomach-tube was thereafter introduced occasionally in the morning to ascertain whether or not the stomach was empty. It was found to contain decreasing amounts of pure gastric juice up to the tenth day of starvation. Two days later milk was given by mouth, and thereafter the patient received gradually increasing amounts of soft food, and during two weeks he gained 16 pounds in weight. The greater curvature was then found at the level of the umbilicus; there was no splashing on palpation of the abdomen, and no retention of food in the stomach. But when the tube was introduced into the stomach, May 26, after a starvation of twelve hours, it was again found to contain 100 c.c. of gastric juice. It was therefore evident that there was again a continuous secretion going on. Under such circumstances operation was advised, as it was thought most likely that the attacks would return as soon as the patient began to work and eat ordinary food. He was again starved for two days in order to stop the gastric secretion.

Operation.—Laparotomy was performed by Dr. A. J. Ochsner May 28, 1910. The stomach was greatly hypertrophied but not dilated; the pylorus was thick and rigid and in the duodenum, about half an inch below the pylorus, was found a thickened area of the size of a dime with scar-tissue. Gastro-enterostomy was made. Three months later the patient weighed 157 pounds, having gained 41 pounds since his admission to the hospital. He was feeling well and showed no signs of gastric dilatation, the greater curvature standing one finger's breadth and a half above the umbilicus.

CASE 3.—Pyloric cancer; dilatation of the stomach.

Patient.—H. S., clerk, 50 years old, was admitted to the Augustana Hospital Jan. 22, 1909. He had suffered from more or less severe epigastric pains after his meals since the fall of 1907. Lately he had begun to lose flesh rapidly. During the last month he had been able to retain only liquid food; solid food caused severe pains which were not relieved until he had vomited. His complexion had turned yellowish during the last two weeks.

Examination.—Patient was cachectic; the stomach was dilated, and the greater curvature stood about two fingers' breadth below the umbilicus. A hard tumor, the size of a walnut, could be felt above and to the right of the umbilicus; peristaltic waves could be plainly seen proceeding from the left to the right toward the tumor. The stomach-tube was introduced and 480 c.c. of a grayish fluid were evacuated which contained no free hydrochloric acid but gave a strong reaction for lactic acid. A diagnosis of carcinoma was made with pyloric stenosis and secondary dilatation of the stomach. Patient was put to bed and fed by rectum for five days. The stomach had by that time contracted and the greater curvature was standing one finger's breadth above the umbilicus.

Operation.—Laparotomy was performed by Dr. A. J. Ochsner. A cancer of the pylorus was found which also involved the head of the pancreas. The stomach was of normal size; its walls were considerably hypertrophied. A gastro-enterostomy was made.

The patient was quite comfortable thereafter for about half a year, but died in the fall of 1909.

COMMENT

It will be noticed that in these cases, although an operation was found necessary, it was not the gastric dilatation *per se* that formed the indication for surgical interference. In fact, the stomach had contracted in all three cases under the treatment advocated in this paper, but the underlying causes—a stricture of the pylorus, a pyloric spasm and a pyloric cancer, respectively—made a gastro-enterostomy necessary.

CASE 4.—Splanchnoptosis (gastric ulcer?); gastrosuccorrhea; pyloric spasms; dilatation of the stomach.

History.—Mrs. H. L., 39 years old, had married at 21 years of age and had borne six children. The delivery of the fifth child, when she was 29, was very difficult and necessitated use of forceps. Thereafter she was very weak, became constipated, and began to have epigastric pains about an hour after dinner and supper. These pains came on in periods and particularly if she worked hard; they were usually relieved, for the time being, by a dose of baking-soda or by taking some food. In August, 1909, the pains became more intense, appeared also in the middle of the night and were then not relieved until she had vomited a pint or two of a very sour, burning fluid. Thereafter she would be free from pains for a few days. She was rapidly losing weight.

Examination.—Dec. 1, 1909, she came under my observation. There was evidence of splanchnoptosis. The abdomen was very prominent, the lower edge of the liver was considerably below the costal arch in the mammillary line and there was no tympanism in Traube's space. The stomach had apparently sunk below the ribs and could be seen as a prominence which almost reached the pubis. During the palpation one could

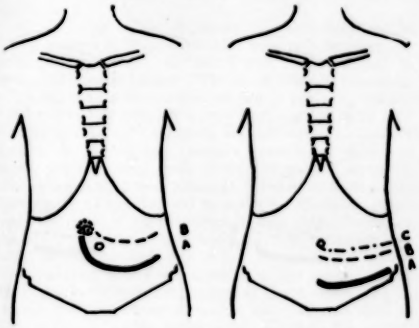

Fig. 3.—Diagram of position of stomach in Case 3: (*A*) greater curvature when first seen Jan. 22, 1910; (*B*) position at the time of operation for cancer, Jan. 27, 1910.

Fig. 4.—Diagram of position of stomach in Case 4: (*A*) of greater curvature, Dec. 1, 1909; (*B*) position after treatment, Dec. 7, 1909; (*C*) point of retraction on discharge.

observe how it contracted at times, peristaltic waves were seen to proceed from left to right, and pronounced splashing sounds could be produced. The next morning, after some dry currants had been given at night, the stomach-tube was introduced and about 100 c.c. of a dirty, grayish fluid were evacuated in which the currants were seen floating around; the total acidity was 98 and the free hydrochloric acid 76.

Treatment and Results.—Patient was put to bed, given moderate doses of bismuth and bicarbonate of soda and saline laxatives, and fed by rectum. Abdominal massage was given daily and cold, wet dressings were applied. Three days later the gastric juice was still being secreted; 150 c.c. were evacuated in the morning, the total acidity was 64 and the free hydrochloric acid 31. On the sixth day the stomach was empty and had contracted so that the greater curvature was found the breadth of a finger and a half below the umbilicus. On the tenth day the patient began to take food by mouth, and on the twenty-first day she was allowed to get up. She weighed then 105 pounds. She put on flesh gradually and five months later weighed 135 pounds, had no pains and had normal bowel movements. The stomach was still displaced downward but not dilated; the greater curvature was found

slightly below the umbilicus and the stomach emptied itself in a normal manner.

Since then she has been practically well and has been able to eat ordinary food. Only a few times, when she has been doing some very strenuous work or eaten some particularly unsuitable food, has she had recurrence of her epigastric pains. These rapidly disappeared after a few doses of bismuth and bicarbonate, a laxative, one or two days' rest in bed and starvation.

CASE 5.—Chlorosis; duodenal ulcer; pyloric dilatation of the stomach.

History.—Miss E. S., aged 23, came under my observation Sept. 10, 1909. She had always been well up to November, 1908, when she began to have epigastric pains two or three hours after meals. After a few weeks they became more severe and were not relieved until she vomited undigested food. She gradually grew worse and was rapidly losing flesh. In the summer of 1909 she began to vomit not only undigested food, but also once in a while large quantities of sour or bitter fluid.

Examination.—The patient was very pale and of a greenish complexion. Her stomach was found dilated, the greater curvature standing two fingers' breadth below the umbilicus, loud splashing was heard on palpation and, after the stomach-tube had been introduced, about 150 c.c. of greenish fluid were

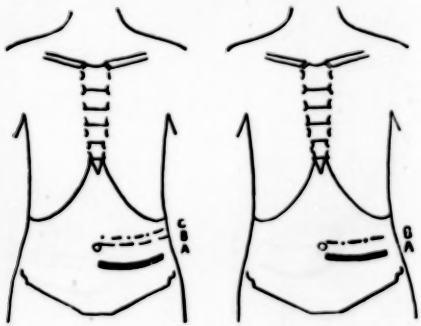

Fig. 5.—Diagram of position of stomach in Case 5; (*A*) dilated stomach, Sept. 10, 1909; (*B*) position after treatment, and (*C*) as found on discharge.

Fig. 6.—Diagram of position of stomach in Case 6; (*A*) lower margin of stomach when seen Aug. 11, 1910, and (*B*) position Aug. 12, 1910, after treatment.

evacuated, although she had had nothing to eat or drink for the previous eight hours. Two hours before the examination she had vomited "a pailfull" of the same fluid. Analysis showed strong reaction for free hydrochloric acid. Her weight was 114 pounds. She was put to bed, fed by rectum and given only water and moderate doses of bismuth and bicarbonate by mouth. The pains disappeared immediately. On the morning of the fourth day the stomach was empty and had contracted so that the greater curvature stood above the umbilicus. On the tenth day she was given warm milk; on the fifteenth day she was allowed to get up and thereafter improved rapidly. Nov. 13, 1909, or two months after she came under my treatment, she weighed 140 pounds, could eat anything she liked without discomfort and there were no signs of dilatation.

CASE 6.—Acute gastric catarrh; atonic dilatation of the stomach.

History.—Miss K. F., aged 25, had had several attacks of appendicitis after she was 10 years old and was operated on for it when she was 24. During the year following the operation she had two attacks of severe cramp in the epigastrium, both coming on directly after a too heavy meal; both times she had to stay in bed and practically starve for three weeks. When she first came under my observation, Aug. 11, 1910, about a year after her operation, she had been visiting in Chicago for three weeks and had been eating candy and cake every day. After breakfast, August 11, she again had severe cramp in the epigastrium. At 7 p. m., when I saw her, she was still in pain, although she had not eaten anything since breakfast.

Examination.—Stomach was dilated, the greater curvature standing one finger's breadth below the umbilicus; pronounced splashing sounds could be produced, and when the tube was introduced a pint of brownish, sour-smelling mass was evacuated, which contained a large amount of mucus and no hydrochloric acid; the total acidity was 18. The pains disappeared immediately. The next day the stomach had contracted.

Treatment.—She starved for two days and stayed in bed for four days. She was given hydrochloric acid before meals and a gradually increasing diet and soon recovered.

COMMENT

The cases here described represent two different forms of gastrectasia: The one is due to a pyloric obstruction caused by a stricture, a spasm, or a cancer; the other due to atony of the gastric wall itself caused by overeating and subsequent catarrh or accompanying a gastroptosis. In all of the cases the stomach maintained its contractility no matter whether the dilatation had lasted a day, as in Case 6, or a year, as in Case 1. But it seems that this remarkable contractility of the dilated stomach has not been properly considered by the authors who have contributed to this subject.

Almost from time immemorial, the so-called dry diet has been advocated as the most suitable for a dilated stomach, the food being given in small and frequent meals. As the results were far from satisfactory, Kussmaul's advice in 1867 to use the stomach-tube, based as it was on the report of a cure, was received with enthusiasm, and there is no doubt that the words of Kussmaul have come true:

"It is possible to empty the stomach completely by means of the stomach-pump, and probably, provided the elastic and contractile powers of the stomach are not entirely exhausted, to restore its ability to contract down to its smallest dimension."[1]

It appears, however, that most of Kussmaul's followers overlooked one factor in the treatment of gastrectasia as advocated by him: namely, that the patient should be put to bed. Too great stress was therefore laid on the use of lavage alone and, for many years, a discussion was carried on as to how often and at what time of the day a gastric lavage should be given. Some authors advised that it be given every day, others only every second or third day; some gave it in the evening, while others gave it in the morning, apparently with equally uncertain results.

Another great stride forward in regard to the treatment of gastrectasia was taken when, in 1893, Rössler[2] advised that no food at all be given by mouth for four days, and when von Mehring showed how valuable rectal feeding and particularly rectal injections of normal salt solution are in cases of gastrectasia. In fact, it has been demonstrated that the emaciated organism of a patient suffering with a gastric dilatation eagerly absorbs fluid from the rectum, while no absorption is possible through the gastric mucosa.

1. "Mittelst der Pumpe musste es gelingen den Magen vollständig auszuleeren, ihm vielleicht sogar, wenn seine elastischen und contractilen Kräfte nicht ganz erschöpft waren, die Fähigkeit sich auf seinen kleinsten Umfang zusammenzuziehen wieder zu verschaffen." Kussmaul, Adolf: Ueber die Behandlung der Magenerweiterung durch eine neue Methode mittelst der Magenpumpe, Deutsch. Arch. f. klin. Med., 1869, vi, 455.

2. Rössler: Ueber die Ausschaltung der Ernährung durch den Magen bei Magenerweiterung, Wien. klin. Wchnschr., 1893, vi, 720.

But the works of Rössler and von Mehring seem to have passed comparatively unnoticed, and the standard treatment for gastrectasia consisted still in dry diet and daily lavage, although some changes and additions of slight importance were made to it. Rosenheim[3] advised a liquid diet and pointed out that liquids will pass the pylorus more rapidly than solid food, if the patient is in a recumbent position. Cohnheim[4] gave large doses of olive-oil, by which he claimed to be able to remove the cause for gastrectasia in cases in which it is not due to an irreparable pyloric stenosis.

Other therapeutic measures that have been employed are the wearing of a bandage to support a dilated stomach, and the use of electricity applied to the abdomen or directly to the wall of the stomach by means of an intragastric electrode, massage, and different hydrotherapeutic measures. But when we study the reports of cases that are given in support of the recommendations of these various treatments, we will easily find that the results cannot compare with those obtained by Rössler, who also insisted on rest in bed during the starvation.

For instance, Crämer,[5] in order to illustrate the brilliant results that may be had by daily lavage and dry diet, reports the case of a man 33 years old, who had been vomiting sour masses for two weeks only. His stomach reached three fingers' breadth below the navel, there were loud, splashing sounds, and a pint of grayish-brown fluid was evacuated from the stomach in the morning. After five weeks of careful treatment, the stomach still contained from 750 to 1,000 c.c. of fluid in the morning, and only after half a year was it found fairly empty; he had then gained only 10 or 15 pounds in weight. But one of Rössler's patients gained 4.3 kg. in one week, and one of my patients gained 34 pounds in two months.

B. Reed,[6] in a report of cases of gastrectasia treated by diet, massage and intragastric electricity, mentions one case in which the greater curvature was 3 or 4 inches below the umbilicus and stood at the level of the navel only after three months' treatment. In another case the greater curvature was 3½ inches below the umbilicus and it was seven months before it was found an inch above the umbilicus. In a third case of Reed's, in which the greater curvature was 3 or 4 inches below the umbilicus, the treatment seemed to be of no effect during the first three months and only during the fourth month did the patient improve. But in one, Case 4, reported above, the stomach contracted in three days, and in Case 3 in six days.

It seems only fair to conclude, therefore, that the most efficient treatment of gastric dilatation, no matter of what nature or of what degree, is to give the stomach complete rest by putting the patient to bed, evacuating the stomach, and keeping it empty until it has had time to contract. These are the three essential features of the treatment of gastric dilatation. Other therapeutic measures should be considered only as auxiliary. They may, however, be of great value even if they are not strictly necessary, particularly injection of food and salt solution by rectum, hydrotherapeutic measures and massage. Only a few drugs are of value in these cases, and they are especially sodium bicarbonate in cases of hyperchlorhydria or continuous gastric secretion, bismuth in case of catarrh or ulcer, and saline laxatives.

After the stomach has contracted, the chief indication is to feed the patient properly. Almost any kind of wholesome and well prepared food is then tolerated. It may be advisable to prescribe a chiefly vegetarian diet in order to overcome constipation, which always accompanies gastrectasia; but it has been repeatedly observed that a patient of this class when his stomach recovers its normal functions, at the same time also gets rid of a constipation which may have troubled him for years. The patient should also be admonished to avoid everything that might cause a relapse, as, in some cases, the excessive use of tobacco, coffee and alcoholic beverages, which may produce hyperchlorhydria or hypersecretion, pyloric spasm and secondary gastric dilatation; or in other cases, overloading of the stomach, particularly when the patient is tired or depressed, as it may lead to atonic gastric dilatation. Finally, the patient should be told that, at the slightest sign of relapse, he should evacuate his stomach, starve and, if necessary, remain in bed for a day or two, as the stomach will soon return to normal conditions if this treatment is immediately applied.

A discussion of the treatment of gastrectasia would be incomplete if it did not also take into account the treatment of its causes. But I will confine myself to two points in this respect. The one is that the treatment of gastrectasia with removal of gastric contents, starvation and rest in bed is the very best one for three conditions which very frequently are met with as causative factors in gastrectasia, namely, gastric or duodenal ulcer, pyloric spasm, and continuous gastric secretion. The other is that the treatment referred to is the very best means at our disposal to make a definite diagnosis as to the cause of the dilatation, if this cannot be immediately determined. By employing this treatment, we shall be able to decide in a few days whether or not the dilatation is due to adhesions of the greater curvature to other abdominal organs, as the stomach will, of course, fail to contract in such a case; and we shall be able to decide within a few weeks whether the pylorus is patent or not, as, in case of organic pyloric obstruction, the dilatation will return as soon as the patient begins to take ordinary food. In this connection I also want to point out the advantage of using this treatment as a preparatory one before a gastro-enterostomy is made. The advantage is twofold. In the first place we stop a continuous gastric secretion, which, if it is present at the time of the operation, may cause a peptic ulcer in the part of the jejunum that is sewed up to the stomach. Secondly, by giving the stomach an opportunity to contract before the gastro-enterostomy is made, we shall surely have better results from the operation, because the opening is laid between the stomach and the intestine when both are in a state of contraction. If the anastomosis is made between a dilated stomach and a contracted intestine, the operation may prove a failure because of a secondary contraction of the gastric wall and subsequent narrowing of the opening.

CONCLUSIONS

1. A dilated stomach retains its contractility wonderfully well no matter for how long a time or to what degree it has been dilated.

2. The chief purpose of the treatment of a gastric dilatation should be to give the dilated stomach every

3. Rosenheim, F.: Ueber motorische Insufficienz des Magens, Berl. klin. Wchnschr., 1897, xxii, 228, 252.

4. Cohnheim, P.: Weitere Mittheilungen über die Heilwirkung grosser Dosen von Olivenöl bei Erkrankungen des Magens und des Duodenums, Ulcus, Hyperchlorhydrie, spastischen und organischen Pylorus-Stenosen und deren Folgezustände (Gastrektasie), Ztschr. f. klin. Med., 1904, iii, 110.

5. Crämer, F.: Magenerweiterung, motorische Insufficienz und Atonie des Magens, München, 1903, p. 96.

6. Reed, B.: Dilatation of the Stomach, with Reports of Cases Treated by Diet, Massage, and Intragastric Electricity, THE JOURNAL A. M. A., 1898, xxxi, 220.

possible opportunity to contract. This purpose is best accomplished by removal of gastric contents, starvation and rest in bed.

3. These three therapeutic measures should be considered a distinct method of treating gastric dilatation, indicated as soon as a diagnosis of dilatation has been made, just as the starvation-cure is considered a method of treating gastric ulcer.

4. This method is indicated as a preparatory treatment in those cases of gastric dilatation in which a gastro-enterostomy is to be made on account of the cause which has led to dilatation, as under such treatment the stomach will contract as far as possible and an eventual continuous gastric secretion will cease.

5. Intragastric or extragastric electricity, massage, cold compresses or other hydrotherapeutic measures, abdominal supporters, rectal feeding, strychnin, antiseptic drugs and alkalies are valuable auxiliary remedies which are not strictly necessary for the treatment of gastric dilatation.

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SIGNIFICANT SIGNS IN EARLY DIAGNOSIS

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The term "significant" is used advisedly. There are certain symptoms or signs which at all times are indicative of pathologic processes. Their theoretical value in diagnosis we would never think of denying; and yet practically it is just this evidence that we are prone to overlook in rendering our decisions, blinded as we often are by an over-abundance of signs, the very multitude of which tends to obscure the clinical picture. Symptoms such as hematemesis, melena and chills, and physical signs like petechiae, localized tenderness and markedly dilated veins always signify abnormal conditions, and cannot under any circumstances be discarded as valueless diagnostic evidence. They mean something—they are what are termed in this paper "significant signs."

I am firmly convinced that many mistakes in diagnosis are avoidable, the errors in these instances being the result of inability to discriminate between salient and unimportant facts. The "snap" diagnostician startles his audience, not by laboriously gathering together all the evidence possible for or against his views, but by rapidly surveying the evidence at hand and recognizing one or two definite signs on which he bases his opinion. Censure this method as we may, we cannot deny that, other things being equal, it is just this keenness of perception, this ability to grasp the essential details, that justly places one physician on a higher plane than another in the eyes of his fellow practitioners.

Early diagnosis especially depends not on the number of symptoms presented by the patient but on a recognition of their relative significance. One definite sign is of far greater value than many uncertain ones and is often all that is necessary to make the proper and final diagnosis. Familiar though this simple rule may be, it is certain that it is not always observed, with the result that differential diagnosis is often rendered difficult. It is to emphasize this essential truth rather than to suggest any new or special signs in diagnosis, and to cite a few cases which should prove instructive *per se*, on account of the diagnostic problems they present, that I have collected from the material seen recently in the admitting department and in the wards of Mount Sinai Hospital, 10 cases illustrating the point in question. They are as follows:

CASE 1.—*Signs of diffuse peritonitis. Tenderness and indefinite mass in right iliac fossa, suggestive of appendicitis. Hematemesis.*[1] *Ruptured gastric ulcer.*

M. I., aged 40. (Service of Dr. Gerster.) Patient's previous history, with the exception of loss of appetite for three weeks preceding admission, had been negative. Three days before admission the patient had experienced sudden pain in the right lower quadrant of the abdomen. No vomiting or other symptoms at onset. Twenty-four hours later patient had vomited a small quantity of brownish-black material. The abdominal pain had progressively increased in severity up to the time of admission.

Physical examination revealed the evidences of diffuse peritonitis. The entire right rectus muscle was held rigid. There was general but no localized tenderness. Rectal examination revealed a sense of resistance high up on the right side. Liver dulness was not diminished in extent. There was distinctly movable flatness in both flanks. Laparotomy showed a perforated gastric ulcer, with free fluid and gas in the peritoneal cavity.

The diagnostic probabilities in this case were two: ruptured appendix, and perforated gastric ulcer with purulent peritonitis. There were several indefinite signs pointing toward the former, and but one definite sign indicating the latter. We could not logically regard hematemesis here as a coincidence; it was a "significant" sign. It meant something and had to be considered of primary importance in making a correct diagnosis.

CASE 2.—*Signs and symptoms of cerebrospinal meningitis. Localized tenderness over lower spine. Osteomyelitis of spine.*

A. W., aged 46. (Service of Dr. Meyer.) For five days prior to admission patient had complained of malaise, fever and pain in the dorsolumbar region of the spine, and in the left side of the chest posteriorly, aggravated by deep breathing. These symptoms had progressively increased to date of admission.

Physical examination revealed a very much prostrated patient, lying with his head slightly retracted and his right hand beneath the lower part of his spine. Accelerated and somewhat irregular respirations, blepharospasm, tache cérébrale, exaggerated knee-jerks, ankle-clonus, a Kernig's sign, a Babinski reflex and a temperature of 104 F. completed the picture of acute meningitis. In addition there was localized, excruciating tenderness over the tenth, eleventh and twelfth dorsal vertebrae, over the base of the left lung and the lowest three left ribs. The following day the spinal pain and tenderness diminished considerably and there appeared a small area of bronchial breathing about the size of a half dollar, with a few fine râles at the left base posteriorly. Lumbar puncture was absolutely negative. From day to day the localized tenderness diminished and the picture became more meningeal. The rigidity of the neck increased, the patient became irrational, and twitchings and spasticity of the lower extremities developed. The pulmonary signs at the left base increased, so that eight days after admission there was evidence of consolidation and of fluid. The latter partly removed by aspiration showed a cell count of 95 per cent. polymorphonuclears, and contained the *Staphylococcus aureus* on culture. The patient's general condition became rapidly worse until his death a few days later. Necropsy revealed an osteomyelitis of the spine with a large abscess which had ruptured into the pleural cavity.

Viewed in the light of the post-mortem findings the picture here was entirely obscured by the disappearance of one sign which if recognized and given its full value would have rendered the diagnosis clear. The marked localized tenderness over the lumbosacral spine present on the day of admission indicated beyond doubt the

1. Sullinger, D.: Leube's Special Medical Diagnosis, Appleton & Co., 1907, p. 274.

existence of a pathologic process in that region. It is unfortunate that later developments pointing toward meningitis, primary, or secondary to pulmonary disease, so complicated the clinical picture that this most important sign was either overlooked or discarded as unimportant. It is interesting to note that in a case seen some months later on the service of Dr. Gerster, presenting similar evidences of meningitis with distinct localized tenderness over the fifth lumbar vertebra, the diagnosis of spinal osteomyelitis was made and proved correct. The patient died from a general staphylococcemia.

CASE 3.—*Signs of acute appendicitis with abscess. Distinct ovarian zone of hyperalgesia (Head's zone).*[2] *Twisted ovarian cyst.*

R. M., aged 13. (Service of Dr. Gerster.) Patient's illness began acutely three days before she came to the hospital with sudden pain in both right and left iliac fossae and vomiting. The pain had progressively increased in severity since onset. Patient had never menstruated.

On examination there was found general abdominal rigidity and tenderness in both the right and the left iliac fossae. The patient was prostrated. She had a temperature of 102 and a pulse of 112. Rectal examination revealed a very tender indefinite mass high up in the midline extending somewhat to the left. When tests were made for zones of hyperalgesia, appendicular and ovarian, it was found that there was a distinct area in the left iliac fossa, extending down the inner side of the left thigh for a distance of about three inches and corresponding to a left ovarian zone of hyperalgesia. There was no area of hyperesthesia in the right iliac fossa. The diagnosis of twisted ovarian cyst was made on this ground only and proved correct at operation.

The intelligent cooperation of the patient is essential to establish the existence of a zone of hyperalgesia; if found present it is of considerable diagnostic importance. In two similar cases seen recently this necessary cooperation was not forthcoming, and in both of these cases wrong diagnoses were made.

CASE 4.—*Acute onset, right hypochondriac pain and tenderness. Diagnosis of acute cholecystitis. Red blood-cells in urine. Renal calculi.*

C. M., aged 30. (Patient of Dr. A. A. Berg.) Twelve hours before admission the patient had experienced a sudden lancinating pain in the right hypochondrium and right loin, with vomiting, chill and a rapid rise of temperature to 105.

Pressure in the right hypochondrium elicited considerable tenderness. There were no other symptoms. An examination of the catheterized urine revealed a few red blood-cells. Despite this the diagnosis of acute cholecystitis was made. Three days after admission the pain ceased and the temperature fell to normal. Vaginal examination at that time revealed two small yellowish-white calculi which had spontaneously passed, lying in the right fornix.

Here the diagnosis depended entirely on the urinary findings. Despite the presence of red blood-cells in the urine, acute cholecystitis was considered the most probable diagnosis. The finding of the calculi in the vagina proved that positive signs like hematuria cannot be disregarded.

CASE 5.—*Signs of osteomyelitis of rib with cold abscess. Yellow granules in sputum. Actinomycosis.*

C. A., aged 65. (Service of Dr. Manges.) For six months patient had complained of pain in the right chest, increasing weakness, cough and profuse expectoration, the latter occasionally blood-tinged.

Physical examination showed the usual evidences of senility. In addition there were dulness with diminished breath and voice sounds at the base of the right lung posteriorly and a semisolid, gelatinous fluctuating swelling over the lowest two right ribs anteriorly. At the time of the first routine examination by the house physician, a jar containing about 4 ounces of sputum expectorated in a few hours was inspected and found to contain numerous minute yellowish granules. The diagnosis was then made of actinomycosis, and proved correct by microscopic examination of these yellow granules and of the fluid aspirated from the fluctuating swelling over the ribs, both of which showed the ray fungus.

This was not a "snap" diagnosis. It was the result of observation; it showed ability to recognize one positive sign and to use it to the best advantage. Tuberculosis of the lungs and ribs is much more common, and would have been accepted as the original diagnosis by the ordinary observer. But this one sign was sufficient evidence in this instance to establish not only a tentative but also a final diagnosis.

CASE 6.—*Clinical picture of an acute infectious disease. Petechial eruption. Cerebrospinal meningitis.*

J. H., aged 16 months. (Service of Dr. Koplik.) The patient had been ill for five days with mild fever, and three days before admission had had a convulsion. The day before admission there had developed a scanty rash on the face and lower extremities.

Clinically the child appeared to be in the prodromal stage of an infectious disease. The temperature was 103. The child looked sick, with accelerated respirations, a flush on both cheeks, slight dilatation of the alae nasi with each expiration, moderate rigidity of the neck and the suggestion of a strabismus. Kernig and Macewen signs were doubtful. Scattered over the neck and lower extremities were a moderate number of distinct petechiae, fresh in places, in others fading. The diagnosis of acute cerebrospinal meningitis was made. Lumbar puncture revealed turbid fluid filled with meningococci.

This diagnosis was not a brilliant one, and yet if we had failed to take the eruption into consideration a mistake would surely have been possible especially in the absence of an epidemic of meningitis, inasmuch as the general condition of the child warranted the assumption that it was suffering from pneumonia or any one of the infectious diseases. The eruption, however, furnished positive evidence on which a correct verdict was rendered.

CASE 7.—*Signs of broncho-pneumonia. Endocarditis. Petechiae*[3] *in conjunctiva. Diagnosis of infective endocarditis. Negative blood-culture. Recovery.*

E. M., aged 64. (Service of Dr. Manges.) The patient's illness had begun suddenly six days before admission to the hospital with a chill and vomiting. Since then patient had had fever, headache, chilly sensations and a severe cough.

On examination the patient appeared prostrated. Her respirations were markedly increased in frequency and depth. The temperature was 104. There was a loud systolic murmur at the apex of the heart with evidence of slight increase in the area of cardiac dulness. In the lungs there were several small areas of bronchial breathing and voice with fine subcrepitant râles. In the left conjunctiva was a distinct petechia with white center, resembling minutely the petechiae of bacterial endocarditis. On the strength of this evidence together with the physical signs of endocarditis and a history of chills and fever a diagnosis of infective endocarditis with pulmonary infarcts was made. Two days after admission, the petechia in the conjunctiva had disappeared. The temperature dropped by crisis; the lung signs decreased; and about ten days later the patient was discharged from the hospital, perfectly well. The blood-culture taken on the day of admission was negative. The soft cardiac murmur persisted.

2. Elsberg and Neuhof: Diagnostic Value of Cutaneous Hyperalgesia (Head's Zones) in Abdominal Diseases, Am. Jour. Med. Sc., 1908, cxxxvi, 690.

3. Libman: A Study of the Endocardial Lesions of Subacute Bacterial Endocarditis with Particular Reference to Healing and Healed Lesions, with Clinical Notes, Am. Jour. Med. Sc., September, 1912.

Cases of pneumonia with petechiae in the conjunctivae are rare; cases of bacterial endocarditis with petechiae, very common. It was perfectly logical to assume that inasmuch as all the signs and symptoms in this case could be explained on the basis of an infective endocarditis and that in addition there was present a sign practically pathognomonic of the condition, this diagnosis was the correct one. The fact that this was an exception to the general rule does not militate against the rule, but simply emphasizes the possibility of error and puts us on our guard when we come in contact with similar cases.

CASE 8.—*Acute onset. "Typhoid state." Violent headache.*

S. E., aged 25. (Service of Dr. Meyer.) The patient gave a history, dating back eight days, of acute onset with fever, mild abdominal cramps, increasing prostration and very violent headaches unaffected by any form of medication.

On admission the patient's temperature was 102, the pulse 100. He was in a distinctly "typhoid state" and markedly prostrated. His right hand was held almost constantly on his forehead, evidencing intense frontal headache. There was no eruption on the body; no enlarged spleen. There were no Kernig, Babinski or Oppenheim signs, and no paralyses. Within thirty-six hours the temperature had dropped almost to normal, and the headache had disappeared; three days after admission the patient was practically well. The blood-count had been normal; the Widal negative.

Here at least three possibilities might have been considered; a meningeal or cerebral condition, rendered improbable by the absence of vomiting and localizing symptoms; typhoid, doubtful on account of the acute onset, and Brill's disease[5] or typhus, rendered most probable on account of the very intense headache characteristic of this condition. There is probably no other disease, with the possible exception of one of cerebral origin, that is the cause of so intense headaches as Brill's disease. We have no actual proof that the patient was suffering from this disease, but the acute onset, the marked headache, the prostration, the critical drop of temperature on the eleventh day and the uneventful recovery indicated beyond reasonable doubt that he was admitted convalescing from typhus. In this case one significant symptom, intense headache, made the diagnosis.

CASE 9.—*Radiating pains in lower extremities. Picture of sepsis or infectious myelitis. Small tumor of breast. Metastatic spinal and cerebral carcinosis.*

L. K., aged 48. (Service of Dr. Meyer.) The patient had been ill for seven weeks, at first with bitemporal headache, radiating pains down lower extremities, slight fever and increasing weakness.

On examination the patient looked extremely septic; at times she appeared somewhat irrational. The temperature was 103, the pulse 130. There were many pustules scattered over the forehead and body. The heart, lungs and abdomen were normal. There was some tenderness over the entire right femur. The knee-jerks were somewhat exaggerated. The picture was that of an extreme sepsis, beginning possibly as an osteomyelitis of the right femur, or of a myelitis following some infectious disease. On the next day, routine examination revealed in the left breast a small, hard, nodular tumor, undoubtedly carcinoma, about the size of a small lemon. The spinal and cerebral symptoms increased very rapidly until the patient's death about a week later.

No necropsy was obtainable, but it was the consensus of opinion that the patient died from a metastatic carcinoma. In this instance the diagnosis was of course impossible until the discovery of the breast tumor. If we had regarded this finding as merely incidental we would have been unable to make the proper diagnosis; but when, instead of discarding this one positive sign, we endeavored to make it "fit into" the clinical picture, it was not difficult to explain all the other phenomena.

CASE 10.—*Symptoms of chronic nephritis with acute exacerbation. Hematuria. Exudate on throat. Tuberculosis of throat and urinary tract.*

H. W., aged 28. (Service of Dr. Rudisch.) The patient had been in the hospital ten months before this second admission, suffering from symptoms of chronic nephritis, and was discharged improved from what was thought to be an acute attack of this disease. On the second admission the patient complained of pain in the right loin, slight cough, occasional sweats, headache, dizziness, loss of weight and mild intermittent hematuria for four months. For four weeks he had had sore throat and dysphagia.

Examination revealed an emaciated, anemic individual, with slight tenderness in the right costo-vertebral angle and a few indefinite lung signs. The pharynx was covered with a thin, dirty-gray exudate.

A diagnosis of acute exacerbation of a chronic nephritis was made, on the basis of the former diagnosis. The throat condition was considered to be a streptococcus infection or a Vincent's angina purely incidental and dependent on the patient's weakened condition. If we had looked further we would have found that besides the exudate in the throat there were many discrete yellowish-gray papules resembling small tubercles scattered over the soft palate, fauces, uvula and tonsils. A spread from these papules later showed tubercle bacilli, which were also found in the sputum and in the urine.

It is possible, of course, for several morbid processes to be operative at the same time; still in general it is more reasonable to assume that one underlying cause is responsible for all of the patient's symptoms. If in this case we had given one significant sign the importance it deserved in the differential diagnosis, instead of discarding it as worthless, we would have been spared the humiliation of having our diagnosis entirely overthrown by further observations.

Many more cases could be cited, but these suffice to illustrate the points I have endeavored to prove, namely, that "significant" signs, that is, evidences of actual abnormal processes, are of the utmost diagnostic importance; and that one of these "significant" signs is of much more value than a multitude of indefinite ones. To recognize these signs and to know their importance as weighed against others perhaps more numerous and more striking, should be our aim so that early diagnosis in the future will become less and less a complicated problem.

I take this opportunity to thank the superintendent and attending physicians and surgeons of Mount Sinai Hospital for permission to make use of the hospital records in the preparation of this article.

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4. Anderson and Goldberger: Relations of So-Called Brill's Disease to Typhus Fever, Pub. Health Rep., xxvii, No. 9, Reprint 74.
5. Brill: An Acute Infectious Disease of Unknown Origin, Am. Jour. Med. Sc., April, 1910.

Maternal Ignorance and Infant Death-Rate.—One of the most attractive fields of sanitary endeavor, from a financial standpoint, is the prevention of infant mortality. It has now been demonstrated beyond a doubt that the chief cause of a high infant death-rate is the ignorance of the mothers. It has also been shown that this ignorance can be overcome by visiting nurses, baby consultations and the like. Wherever these are used intelligently the death-rate falls. In Providence it appears that about 200 babies a year have been saved in this way. It costs about $6,000 a year to do it, or $30 per baby.—Chas. V. Chapin, *Am. Jour. Pub. Health.*

THE SIGNIFICANCE OF OCULAR FINDINGS IN ESTIMATING LONGEVITY*

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Since many of the graver morbid processes of the body are attended at some time or other in their course with changes within the eye, it seems extraordinary that life-insurance examiners do not avail themselves oftener of the aid which ophthalmic science offers them.

There is scarcely an organic disease of the nervous system without ocular complications and the earliest signs of circulatory disturbance can frequently be unmasked by the ophthalmoscope. The proper recognition of the initial pupillary changes in tabes and paresis and of a commencing sclerosis of the retinal vessels in Bright's disease might often serve to warn the examiner and to recommend the rejection of an applicant for insurance who manifested no other signs of ill health.

It would be beyond the scope of this paper to attempt an epitome of the ocular symptoms to which disease of the general system may give rise, so I will confine myself to the elucidation of the problem formulated in the questions: "Do any of the morbid processes within the eye, symptomatic of serious disease elsewhere in the body, enable one to draw any conclusions regarding the degree to which that disease may have advanced? And is it possible to form any estimate from them of the probable duration of the life of the person in whom they occur?"

To determine the existence of a disease is one thing; to draw deductions from one's ophthalmic findings regarding the longevity of the individual in whom they occur is another. It is fairly safe to assert, however, that in general, when morbid processes which originate outside the eye produce marked ocular disturbance, the systemic disease causing the lesions must have reached a stage in its development which seriously threatens the health of the individual and renders his tenure of life uncertain. It is not too much for an ophthalmologist to assert, perhaps, that the discovery of hemorrhages in the retina, when not of traumatic origin, in any individual past adolescence, should always be regarded as indicating a serious state of health in the possessor. Most frequently, of course, such hemorrhages are symptomatic of nephritis and, I shall at once, without further preamble, proceed with a description of the ophthalmoscopic findings in that disease.

Among the symptoms of the disease which bears his name, Bright, in 1836, included a disturbance of vision which may often be present before other manifestations of the disease appear. To Heymann, however, in 1856, belongs the honor of describing the first case of albuminuria of the retina in the living subject; though Türck, in 1850, and Virchow, in 1856, had noted anatomic changes in the retinas of eyes in those affected with nephritis. It was not until 1859 that the recognition of the retinitis became wide-spread through the graphic illustrated description of the ophthalmoscopic findings given by Liebreich.

As is well known, albuminuric retinitis occurs most frequently in genuine cases of contracted kidney; that is, in cases in which there is profuse secretion, low specific gravity and little or no albuminuria. In such cases there is usually but little sediment in the urine, with occasional cylindrical casts. As this process often goes on for many years, without apparently affecting the general health, it frequently remains undiscovered. It is in this class of cases that the ophthalmoscopic findings are of paramount importance in revealing a general vascular sclerosis by the discovery of such changes in the retinal vessels.

Retinal changes may also occur in diffuse chronic parenchymatous nephritis, in the so-called large white kidneys, and also in the secondary contracted kidney, which is a sequence of the large white kidney, though not so frequently as in contracted kidney. Finally, several cases are well authenticated in which amyloid degeneration of the kidneys was accompanied by the retinal changes under consideration. Mention need not be made at this time of the not infrequent changes in the retina which accompany the acute nephritis of scarlet fever and pregnancy, or of those which occur in inflammatory conditions of the kidneys secondary to intermittent fever, chronic lead-poisoning, etc.

While it is generally supposed that retinitis appears in and indicates, as a rule, a nephritis of long standing, some authorities believe in the existence of a prealbuminuric retinitis. Such instances have been described by Vance, Hirschberg, Abadie, Gaud and Eyre. These observations, however, as Groenouw has pointed out, can hardly be taken in the sense that the retinal changes precede the nephritis, for this would presuppose both conditions as due to a general derangement, such as a general disease of the vascular system. It is much more likely that the findings indicate that a retinitis may occur with an existing affection of the kidneys before albumin is found in the urine; that is to say, the kidneys may be diseased for some time without the presence of albuminuria, as, for example, has been shown by Litten to be the case in amyloid kidneys. According to Groenouw, a second and more probable explanation of these cases is that albuminuria may sometimes be lacking in contracted kidneys, and if at this stage the patient consults a physician, it is very easy for the latter to mistake the intermittent non-albuminuric condition for a prealbuminuric stage. Finally, it must be remembered that the ophthalmoscopic picture of retinitis albuminuria is in no way characteristic and a similar form of retinitis may occur from other conditions, notably in cerebellar tumor.

In consequence of the importance of this subject, I do not hesitate to quote at length the exhaustive figures which Groenouw has collected to illustrate the frequency with which retinal changes occur in nephritis. Thus retinal changes were found by the following various authors:

Wagner in 6 per cent. of 157 cases.
Frerichs in 15 per cent. of 41 cases.
Lecorché in 22 per cent. of 286 cases.
Eales in 28 per cent. of 100 cases of chronic kidney disease.
Miles Miley in 31 per cent. of 164 cases of acute and chronic kidney disease.
Galezowski in 31 per cent. of 154 cases.

In thirty-three cases of chronic parenchymatous nephritis, Litten found six cases of retinitis albuminurica, making a total of 209 cases of disease of the retina in 939 cases of disease of the kidneys, or 22.4 per cent.

The average age of patients with retinitis albuminurica has been found to be over 40 years, varying, according to Possanner, between 6 and 70 years; and according to Bull between 5 and 78 years. Among forty-five patients Miley found only two below 20 years of age; the greatest number (sixteen) affected were between 40 and 50 years. Schlesinger's figures are from 12½ to 70 years, among forty-two patients. Only one was less than 20 years old, eleven were between 20 and 30, eight

* Read by invitation before the Philadelphia Medical Examiners Association, March 4, 1913.

between 30 and 40, and twenty-two above 40 years of age. Lawson and Sutherland saw a girl of 12, and Anderson a child of 9 years of age, with retinitis albuminurica. I have studied the retinal changes in a boy of 12 years.

On the whole, the prognostic import of retinitis albuminurica is unfavorable and by far the greater number of persons so affected die before a retrogression of the retinal changes takes place. The prognosis for life is usually hopeless in cases of chronic nephritis, less so in acute, and comparatively favorable in renal disease complicating pregnancy.

In view of its importance, I shall also quote at length the statistics collected by Groenouw regarding the duration of life after the first retinal changes were noticed. These are the following:

> Bull reported 103 cases; 86 of the patients died; 57 within the first year, 18 in the second year, 6 in the third year, 4 in the fourth year, and one in the sixth year of observation, making 87 per cent. in the first two years. Miles Miley, in 164 patients with acute or chronic kidney disease, found 105 with healthy eyes and 51 with retinitis albuminurica (the other 8 had affections of the eyes which are not pertinent to our subject). Twenty-seven per cent. of the former and 53 per cent. of the latter died. The mortality shown among those having retinitis albuminurica was twice as great as among patients with healthy eyes. Most of the patients lived about twelve months after the first indications of retinal changes, two lived nearly fourteen months, and one about eighteen months. In those cases in which the onset of the retinal disturbance could be definitely established, the average duration of life did not exceed six months.

According to Ridley, the average duration of life after the onset of retinitis is about one and one-half years. Snell reports that among 103 patients, 57 died within the first year and 12 within the second year after the appearance of the disease, making 67 per cent. within the first two years.

Among 67,000 cases of diseases of the eye, Possanner found 131 (0.2 per cent.) with retinitis albuminurica. Details were obtainable in 72 cases, 39 in private practice and 33 in his clinical service. Among the 39 private patients of Professor Haab, 23 (59 per cent.) died within two years after the onset of the retinal disease; 62 per cent. of these were men and 54 women. Among those surviving, from two and one-fourth to six years had elapsed for the men and from three and one-half to eleven years for the women since the beginning of the eye trouble. Among 33 patients in the clinic of the University of Zurich, all of the men died within the first two years, as against only 68 per cent. of the women. Four of these were still living at the time Haab made his report, one of them six years after the onset of the disease.

Trousseau was able to obtain data concerning 45 patients having retinitis albuminurica, and of these 3 lived more than four years; 4 beyond three years, and 10 more than two years; thus 28, 62 per cent., died within two years; among these 8 within the first year and 3 during the first six months. One woman aged 24 years died one month after the onset of the retinal disease. Haehnle found that among 98 cases of retinitis albuminurica 56 per cent. died within the first year, 68.4 per cent. in the first two years and 14.3 per cent. after two to nine years. Seventeen patients, 17.3 per cent., were still living at the time the statistics were tabulated; 11 of them two years, and the others from three to six years after the onset of the disease.

According to Groenouw, the prognosis is much aggravated by a detachment of the retina, patients with this complication usually dying very soon. It may be stated in general terms, therefore, that only about one-third of the patients with retinitis albuminurica live more than two years after the appearance of the disturbance; and ophthalmic changes must always be considered an indication of an advanced stage in the progress of the renal disease. As de Schweinitz[1] has well said, however, while the prognosis of albuminuric retinitis will always remain exceedingly grave, it is not unlikely that statistics gathered some years hence will show an improvement, as far as the duration of life is concerned, as compared with the figures cited above. A carefully regulated manner of living, with the best of medical care, may prolong life for many years. I have in mind, at this time, the case of a man of advanced years who is still in fair health, in whom albuminuria and other evidence of renal disease have been present for at least fifteen years.

DIABETES

Of almost equal value to the examiner is the recognition of the ocular symptoms of diabetes. These are many and varied, nearly all the tissues of the eye being affected by glycosuria. The most important, however, are the changes which occur in the ciliary muscle, in the lens and in the retina; for it happens, not infrequently, that the ophthalmologist is the first to direct attention to the existence of diabetes, by the discovery of the more or less characteristic disturbances which glycosuria occasions in these structures.

Authorities differ considerably regarding the frequency of ocular complications in diabetes. Seeger asserts, for example, that they manifest themselves at some period during the progress of the disease in at least two-thirds of all cases. Perhaps the most trustworthy statistics are those of Hirschberg, who found diabetes present in from 1 to 2 per cent. in all of his private cases, while the percentage was much smaller in his hospital practice.

Galezowski found the earliest age at which such diseases of the eye occur to be 9, 14 and 23 years; 27 per cent. were between 50 and 60 years old, and 35 per cent. between 60 and 70 years.

Males are much more likely to be affected; Galezowski's figures indicating 65 per cent. males, Seeger 71 per cent. (99 in 140 diabetics) and Schmidt-Rimpler 79 per cent. (118 men among 150 cases of diabetes).

The prognosis *quoad vitam* in diabetic diseases of the eye is not affected in the same manner as in retinitis albuminurica. It may be said in general terms to be unfavorable in degenerative diseases, less so in hemorrhages of the retina, while the formation of cataracts cannot be considered as evidence of the rapid progress of the disease.

Opinions differ, however, in regard to the vital prognosis, for while Hirschberg and Schirmer consider the appearance of eye diseases among diabetics as unfavorable, Schmidt-Rimpler is less pessimistic, for he found that though 19 out of 44 diabetics had died within two years after the appearance of the eye trouble, one patient with retinitis was still living after three and one-fourth years, one with chorioretinitis after four years and one with neuritis after five years. One woman of 63 and a man of 66 with cataract were still living after seven years, and a girl, who at 10 years of age developed a

1. Tyson's Text-Book on Bright's Disease, Ed. 2, p. 210.

diabetic opacity of the crystalline lens, was living nineteen years after the appearance of the eye disease.

It has been my experience, that with proper care, diabetics may live for many years after the development of ocular lesions, and that a proper dietary and regimen not only improve the general condition and lengthen life, but also exert a most favorable influence on the ocular disease, even in some instances causing less opacification of the lens, for diabetic cataract is the one form of cataract which yields in any degree to non-operative measures.

HEART-DISEASE

The ophthalmoscope may also give evidence of the existence of heart-disease; thus in aortic insufficiency there is almost constantly a pulsation of the retinal arteries, synchronous with the radial pulse, and alternating with enlargement of the veins. In fatty heart there is not infrequently extensive disease of the vessels, which may give rise to ocular hemorrhages. It may be of interest to mention, in this connection, that ophthalmologists have been unable to recognize the connection between fatty heart and arcus senilis, all forms of heart-disease being absent in those very cases in which arcus senilis develops at a prematurely early age. Cardiac disease may also manifest itself within the eye in the form of an embolism or thrombosis of the retinal vessels. In aneurysm of the aorta or innominata, vasomotor and oculopupillary sympathetic symptoms are often found on the corresponding side. Initial irritative symptoms give place later to paralytic symptoms.

Individuals on the far side of 65 years, who have had repeated small hemorrhages in the conjunctiva and retina usually die within a few years from cerebral apoplexy. Hasket Derby, for example, followed the life history of thirty-one such patients between the ages of 43 and 83 years and found that almost half died within two years of his first observation and most of them rather suddenly from heart-disease or apoplexy. Raehlman found changes in the retinal vessels in nearly half of all patients with general arterial sclerosis.

Lead, tobacco and alcohol often reveal their toxicity in the fundus oculi, and syphilis can affect almost all of the structures of the eye. Tuberculosis also has its ocular manifestations.

It would require a far greater knowledge of neurology and psychiatry than I possess to prognosticate how long a man may live after the pathologic processes which induce paresis are sufficiently well established to induce ocular changes; yet it would seem that the most sanguine examiner would hesitate to recommend a man with this disease as a safe risk. In this insidious disease, in which initial symptoms are usually those of a purely functional disturbance, the recognition of the earliest physical signs should be of the greatest importance. These are often ocular and if recognized and appreciated should be of the greatest aid in diagnosis. It is at this time that failing vision is complained of, and while in some instances this may be dependent on atrophic changes already present in the nerve, in most instances it will be found to be in the nature of a slight degree of amblyopia, which on careful functional testing will be found to be of psychic origin; as Dercum[2] has pointed out, a kind of visual hyperesthesia quite in keeping with the general psychic disturbance which is setting in, in conjunction also with the lessening of general cutaneous sensibility which is always noted sooner or later. Even at this time, pupillary irregularity may be noted. Difference in the size of the pupils, one should remember, may occur physiologically, but in such cases this difference is usually slight. To quote Dercum:[2]

> If, however, a difference in the size of the pupils be noted and this difference is associated with a sluggishness to light reaction, or if the pupils, being equal, react slightly differently to light, the finding is suggestive with regard to paresis in its incipiency. In the early stages of paresis, indeed, a difference in the promptness of the response to light reaction between the right and left pupils is almost the rule. Likewise an impairment of the consensual light reaction may be the first symptom of a pupillary disorder in paresis, and it is of the same value as a difference of reaction of the two pupils.

Aside from the bearing ocular findings have on the special question of life expectation, it would seem to me that examiners should give more consideration to the degree of visual acuity possessed by applicants for insurance, for even partial loss of sight may disqualify a man from earning his livelihood, thereby affecting his insurability, by reason of the financial risk of his not being able to pay his premiums. It surely would be advantageous to the insurance officers to be informed that when the company is asked to insure the life of Mr. X., for example, that though in good health otherwise, the examiner found commencing cataracts or evidence of glaucoma or optic atrophy, conditions not necessarily affecting longevity, but all progressive ocular lesions, which in all likelihood would so interfere with vision that within ten years or even less, his earning capacity would be greatly jeopardized.

Defective visual acuity or ability not infrequently relegates men to a position far below that which their natural attainments would have won for them. In this connection I may mention the case of a brilliant railway engineer who to all appearance should soon take much higher rank with its equivalently increased pay, but who will doubtless be denied promotion on account of poor vision consequent on congenital cataracts. The examiner and the agent who would recommend this man for a large policy in anticipation of increased earning power, would therefore be in error. There are, of course, some men whose genius transcends all physical limitations. Insurance companies, however, doubtless desire to be guided in their consideration of the case of the average man.

SEXUAL NEURASTHENIA IN MEN

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The relationship existing between the reflex genital centers in the spinal cord and the psychic centers in the brain is such that the changes, physiologic or morbid, in the one are inevitably reflected in the other. This mutual dependence is indicated on the one hand by the influence on the reproductive organs of thoughts and images which may originate in the cortex or are brought to light from memories, and on the other hand by sexual thoughts or dreams which are aroused by the stimuli incited by the accumulation of secretions in the reproductive glands or by other peripheral stimulation.

If the coordination or poise which exists between the local nervous structures and those with which they are connected by sensory reflex tracts in the cortex is disturbed, certain alterations in the mental attitude are perceived which in those predisposed result in the condition known as sexual neurasthenia. These alterations

2. Dercum: In Posey and Spiller's "The Eye and the Nervous System," p. 479.

may come about as the result of morbid changes in the genito-urinary tract or of conditions in the cortex cerebri and sympathetic nervous system, thus dividing the cases into two distinct groups.

The first group (which forms the subject of this article) includes instances of primary sexual neurasthenia or those which arise from conditions in the organs of reproduction.

The second group is made up of cases resulting from conditions in the cortex and sympathetic nervous system. They form primarily the picture of general neurasthenia in which the sexual element appears as one of the subordinate or later features in that disease. This group of cases concerns the neurologist only. In instances, however, where a lesion can be demonstrated in the reproductive tract, as is sometimes the case, it should be eradicated, as one which would otherwise produce no symptoms will, in the irritable condition of the sympathetic nerves present in general neurasthenia, assert itself. I shall treat here of cases coming under the first group, those which arise from local conditions in the reproductive organs.

These organs have been shown by Lovén, Goltz, Eckhard and others to be richly supplied with peripheral nerve ganglia which are connected with the spinal centers and with the centers in the cortex through reflex and direct tracts; these in turn being connected with the centers controlling the organs of special sense and with the different paths of association.

When it is considered that they are so well supplied with sensory and motor nerves, and that the changes, secretory, psychic, vascular and nervous, which accompany the physiology of these parts, are so complex and completely under nervous control, it is not surprising that we find the nervous factor playing an important rôle in the disorders of this region. When it is realized in addition that these are the agencies for the consummation of the strongest of human instincts, we begin to comprehend the close relationship between the psychic and physical which these organs, both in health and disease, serve especially to emphasize, and how abnormalities, either fancied or real, may be reflected not only in the mind but in the very features even of the individual concerned.

For instance, a man came into the outpatient department of the hospital a short time since who in answer to my query stated that he had noticed a few days previously that one of his testicles hung lower than the other. Since his "discovery" he had been sexually impotent, although he had been perfectly potent prior to that time. While speaking his chin had a marked tremor, his teeth chattered, beads of perspiration stood on his forehead and he was a picture of apprehension. On examination the skin of the penis was found crinkled into fine folds, as was also the mucous membrane of the glans. The penis had a withered look and the appearance of trying to draw itself into the pelvic cavity. The scrotum was very lax. The patient gave no history of venereal disease, but the mucous membrane of the anterior and posterior urethrae was blanched and the verumontanum was shrunken, seemingly bloodless, and almost insensitive to the touch of the endoscopic tube.

There were no lesions present either here or in the prostate or vesicles, the secretions of which were normal microscopically. Here is a marked visible example of the influence of the mind over the sexual apparatus, a vasoconstrictor effect which shows itself in the paleness of the mucous membrane and even in a loss of tone in the muscles of the scrotum and penis. The influence of fright and other strong emotions in inhibiting the power of erection is too well known for comment. It cannot be doubted, however, that this man presents fertile ground for sexual neurasthenia should a genital lesion be present; however slight it might be, it probably would be all that is necessary.

These patients with unanimity impute their lack of ambition and failure of achievement in the ordinary affairs of life to their disease. This manifests itself subjectively in insomnia, dyspepsia, disinclination to make any effort, mental or physical, and pains in the back, loins or legs. Associated with these at times are symptoms referable to the bladder, namely, frequency of micturition, burning on urination, pain over the pubic region and interruption of the flow of urine or inability to pass it under certain conditions. Added to these symptoms are sensations of itching, pain or numbness in the course of the distribution of the genitocrural and ilio-inguinal nerves in the thigh, scrotum and penis. To these symptoms, if unrelieved, will later be added those of general neurasthenia, in the picture of which the sexual origin of the trouble may be more or less obscured.

In connection with these subjective symptoms we may recall that the hypogastric plexus of the sympathetic nervous system, through the medium of the hemorrhoidal vesicle and prostatic plexuses, supplies the bladder, seminal vesicles, vas deferens, prostate and rectum. Branches are also sent from the prostatic plexus to the erectile tissues of the penis. The hypogastric is joined by filaments from the intermesenteric plexus and it is probable that many of these abdominal and pelvic symptoms, which we have hitherto associated with purely mental or neurasthenic causes, are actually neuroses transmitted along the different anastomosing branches of the hypogastric plexus from some local focus.

A striking symptom which I have noted in two of my cases (see report of Case 2) was pain in the left iliac region. It was intense, more or less constant, and aching in character; taken in connection with the bladder symptoms, it gave rise to a suspicion of urethral stone. The examination by Roentgen ray, urethral catheterization, etc., was negative. Both of these patients had lost the power of erection. It is significant that the nervi erigentes, arising from the first, second and third sacral nerves, pass to the hypogastric plexus and hence are distributed to the descending colon, rectum, anus and genital organs. As the mechanism of erection is a vasodilator phenomenon, and the pain complained of, coincidently with the complaint of the failure of this event, followed the paths of these branches, which supply the vasodilator fibers to the penis in common with the above abdominal and pelvic parts, it is possible that the pain and impotence complained of in the above two cases were due to a lesion in some one or more of the parts supplied by these nerves. Such lesion acts either directly or through a reflex inhibition of the vasodilator center in some instances or, as we shall see, through exhaustion of this center by constant irritation and overstimulation. In this connection may also be mentioned the stimulation of the sexual centers caused by hemorrhoids, fissures of the anus, parasites and other affections of the anus and rectum.

The cases of sexual neurasthenia which I have seen have all shown lesions in some part of the reproductive tract. Doubtless had the lesions not been found they would have eventually gone on to general neurasthenia and the original source of the trouble been more or less obscured. At times the lesion was minute, but, however

slight, its clearing up, under treatment directed to it alone, was marked by improvement in the general symptoms; indeed, the fact which is most striking is the coincidence in the improvement between the physical signs and the sensory symptoms. Such changes in the mental attitude cannot be altogether due to suggestive therapeutics, for suggestion alone when applied to local treatment does not produce the same result. That there is an intimate connection between the higher centers of the cortex and those which control the vascular phenomena, especially of the reproductive organs, our everyday experiences teach us. So if a local lesion, in a part as richly supplied with peripheral ganglia as the posterior urethra, prostate and other parts of this region, should inhibit the vasodilator nerves or produce the symptoms of neurasthenia it is no more surprising than the complaints of a neurasthenic character which may be caused by a phymosis with adhesions.

The objective signs usually given by these patients are spermatorrhea, prostatorrhea, seminal emissions, and impotence, either partial, complete or relative.

The spermatorrhea may or may not be visible to the patient. Two patients had never noticed any discharge at the meatus, but the urine was turbid, and the turbidity proved to be due to large numbers of spermatozoa. The patients had noticed a decrease in their sexual powers; both had a history of preceding attacks of gonorrhea. The spermatorrhea may be due to atony of the sphincters controlling the ejaculatory ducts owing to previous or existing disease, or to injury to the nerve-supply caused by disease or by overstimulation from masturbation, sexual excesses, or possibly as a result of constitutional causes. Under these conditions the pressure from outside agencies, rectal or abdominal, or even a full bladder, may cause an escape of the contents of the ampullae of Henle, seminal vesicles, or prostate. I have seen an escape of fluid from the prostatic utricle and a discharge from the ejaculatory ducts not unlike the flow of urine from a ureter, when a rough movement of the endoscopic tube caused a contraction of the muscles. The secretion in this instance contained dead spermatozoa and pus and the patient was totally impotent.

The same reasons may hold good in prostatorrhea. The discharge seen by many patients is not prostatic fluid, however, but the contents of overactive urethral and Cowper's glands. Microscopic examination will distinguish between the secretions of the prostate and the other secretions.

The most general complaint from these patients is impotence, partial or complete. Two main factors may be concerned in this: the local condition and the mental. The lesion in the genito-urinary tract by acting reflexly on the vasodilator and ejaculatory centers may act on the one hand by overstimulation, leading to premature ejaculation and seminal emissions or on the other hand by inhibition, as shown by the loss of the power of erection. The latter result will also eventually be brought about by the conditions causing overstimulation as the ejaculatory and vasodilator centers become exhausted or the growth of connective tissue through its effect on the nerve endings dulls the sensibility of the mucous membrane of the posterior urethra. The effect of the tonic activity of the vasoconstrictors is then seen in the characteristic shrinking, withered appearance of the penis which many of these patients show.

The endoscopic picture of the posterior urethra in these cases bears out this distinction. I do not cocainize the urethra or use any local anesthetic, as this may constrict the blood-vessels of the mucous membrane and modify the picture. I use a small tube, No. 23 or 24, so as to exclude as far as possible the local anæmia caused by its pressure. The end of the tube is slightly rounded and at right angles to the length and, in observing the color of the mucous membrane, is kept as nearly as possible parallel with the long axis of the urethra. If care is used the proceeding is practically painless.

According to the appearance of the mucous membrane two types may in general be recognized: one hyperemic congested and hyperesthetic, characterized by frequent pollutions and premature ejaculations; the other anemic and of lessened sensibility, characterized by diminished or complete loss of the power of erection. The change most often seen in the posterior urethra is an infiltration of connective tissue, which is usually the end-result of a preceding inflammation. This in itself is sufficient to dull the sensibility of the posterior urethra and diminish the peripheral stimuli to the genital centers in the cord.

The verumontanum appears to be the point of predilection for these changes, as they appear most marked in this situation. Like the external genitalia there is a great variation in the size and appearance of this prominence in different individuals. In general it corresponds in size and vascularity with the external organs of reproduction of the person concerned, but it is only by observing large numbers that the fine distinction between the normal and abnormal can be detected in doubtful cases. The alterations can be seen in a dulling of the surface of the mucous membrane caused by the denudation of epithelium, changes in the color and frequently in deformity of this eminence. This deformity may appear as fibrous nodules or an infiltration which diminishes the volume of the part as a whole, and may also show in distortion and displacement of the openings of the prostatic utricle and ejaculatory ducts. Other conditions, such as papillomas and fissures, have been described as giving rise to neurasthenic symptoms.

I saw a case in which there was a minute cyst, the color and size of a seed pearl, situated in the angle between the base of the verumontanum and the floor of the urethra. The small extent of some of these changes in the posterior urethra is out of all proportion to the disturbances they create and associated with or exclusive of them may be pathologic conditions in the prostate, seminal vesicles and ampullae of Henle. Such infections may result by direct extension from a urethritis, specific or non-specific, or may be carried to these parts through the blood- or lymph-channels; and until such infection or other morbid condition obtains I am skeptical as to the possibility of the existence of primary sexual neurasthenia.

That coitus is not a necessary antecedent to an infection of these glands is shown by two patients whom I have under my care at the present time. They are typical sexual neurasthenics who have never had sexual intercourse, one because of premature ejaculations, the other because he had never had an erection; and yet the prostatic secretions contain quantities of pus. Both patients admit masturbation. It is probable that frequent masturbation through the resulting oft-repeated congestion lowers the resistance of the glands and prepares a favorable soil for infection from the circulation or from the organisms normally inhabiting the urethra. However this may be, such instances arouse a doubt as to the possibility of sexual neurasthenia without causative morbid changes.

The impotence of which many sexual neurasthenics complain is in the beginning probably purely organic; that is, due to an inhibition of the sexual centers as a result of reflexes from the lesions in the genital tract. This after the first failure at coitus acquires a psychic element; subsequent attempts add to the degree of the psychic feature, which in some instances disappears with the improvement in the subjective and objective symptoms, while in other patients of a more neurotic temperament it remains after the neurasthenia *per se* is cured. This must then be dealt with as a purely mental condition, in the treatment of which the circumstances, surroundings and disposition of the patient must all be taken into consideration.

The attention of an individual of neuropathic type is quickly attracted to any personal abnormality either fancied or real. This is all the more so when it concerns structures so intimately bound up with the emotional side of life as the reproductive organs. Such a person is given to introspection and the appearance of a neurosis or a spermatorrhea or a prostatorrhea or nocturnal pollutions quickly arouses his apprehension. He begins to speculate as to the cause; he may have guilty knowledge of former indiscretions or vices; possibly he has noticed a decrease in his libido sexualis due to his spermatorrhea, which prevents the sexual glands from becoming distended and so removes the stimulus their distention normally provokes. He may have attempted intercourse and been unsuccessful or failed to come up to his expectations; he recalls the horrors he has read of in "literature" devoted to the evils of youthful indiscretions, masturbation and like pastimes. His attention attracted, he looks for further evidences of disease. The pain which has an anatomic basis in some morbid condition in the genito-urinary tract and which may be slight in the beginning, as the victim's attention is fixed on it, increases as all pains do under these circumstances and it becomes to a degree an obsession. This in turn increases the mental depression; and what was originally a neuralgia which could be traced to a definite lesion, by reason of the continued depression and consequent worry and sleeplessness, all of which add to the nerve exhaustion, develops into neurasthenia which, localized at first as sexual, becomes generalized as the sympathetic nervous system succumbs to the continually increasing despondency. Nervous dyspepsia, headaches, insomnia and the train of symptoms characteristic of general neurasthenia follow.

Those who have noted many of these sexual neurasthenics will agree that their appearance and bearing are often characteristic. They have, as a rule, the demeanor of timidity, lack of resolution, hesitancy and self-effacement. They must be questioned guardedly, and until their full confidence is won a satisfactory history cannot be obtained. They realize that in the eyes of many of their fellows the measure of manhood is gaged largely by the sexual characteristics. The very nature of their own trouble tends to exaggerate in their minds the importance of these traits and they watch jealously for the expression of countenance or of words which betoken ridicule. In the course of their treatment they will ask numerous questions which if answered indirectly will confirm their worst suspicions as to the prognosis. They will go far in their interpretation of an answer to pick a negative word or meaning out of the reply, and for this reason a negative word or an indirect meaning must be avoided in the answers to their questions. If a definite time is set for their recovery, on the other hand, and the expected result does not follow, they are cast into deeper depths than originally. Through it all they are reaching out for a hope; every favorable sign, one which would not be perceptible to the normal individual, they grasp eagerly and as eagerly search for the (to them) unfavorable symptom which sinks them still deeper in the mire. So the conflict continues between the positive and the negative, between hope and despondency, until the one gradually overcomes the other and the intervals of encouragement become more frequent and longer drawn out, when the realization of recovery will often come with the suddenness of a shock.

The local treatment is that of the pathologic condition found to be present. The most usual site of this is in the prostatic urethra which presupposes, in many instances of infection, accompanying infection of the prostate and seminal vesicles. The changes in the posterior urethra are connective-tissue infiltration, papillomas, cysts, ulcerations and fissures of the verumontanum, calculi and chronic inflammatory changes of various sorts. A case which I will report in greater detail in the future (as the patient is still under treatment) has a growth within the lumen of the prostatic utricle which protrudes through the separated lips of this part. A portion curetted for microscopic examination shows the structure of a polyp. A detailed description of the treatment of these various changes is beyond the scope of this article. It may suffice to say that they may be treated with posterior dilatations, local applications of silver nitrate (solid or in solutions of 5 or 10 per cent. strength), 5 per cent. salicylic ointment, tincture of iodin, and removal of the growths or calculi if any are present.

Most of this work in the prostatic urethra can be done through the endoscope. Applications should always be made in this way, as it is only by this means that injury to healthy parts can be avoided. None of the pain, discomfort and urinary disturbances which so often follow instillations and such other blind modes of treatment of these conditions result when this method is used. Aside from this the delicacy of the nerve endings, which are so important to the unimpaired preservation of the sexual characteristics and the injury of which gives rise to many neuroses, is respected. For the diffuse connective-tissue changes the posterior dilator is useful. For those localized in the verumontanum I have found tincture of iodin to be most useful in the majority of cases any excess being swabbed up before withdrawal of the instrument. The treatment of the various subsidiary glands is laid down in the text-books and more recent articles on infections of these glands.

The patients will improve mentally as the lesions are eradicated and, with few exceptions, no special mental treatment is necessary provided they are not discouraged by thoughtless statements, which can be avoided easily if one takes into consideration the state of the patient's mind.

The following cases will illustrate:

Case 1.—J. B., farmer, aged 57, unmarried; entered the hospital June 20, 1912, complaining of "sexual exhaustion and extreme nervousness." June 30, he was referred by the nervous department to the genito-urinary department for treatment. Father died of paralysis, aged about 60; otherwise family history was of no importance except that the patient stated that the members had "a tendency to nervous affections."

Past History.—Patient has had minor ailments only; nervous dyspepsia for past twelve years, for which he has treated himself. He denies gonorrhea, syphilis, or any venereal disease whatever; admits masturbation at intervals until two years ago. He has never had sexual intercourse, as ejacu-

lation has invariably occurred before intromission. For this reason patient gave up attempts many years ago. Caressing opposite sex has always resulted in spontaneous ejaculation. He has had nightly emissions for many years. During the summer of 1910 he entered a hospital in another city because of these emissions and the resulting nervous exhaustion, which incapacitated him for work. While there he states that he received bromids, strychnin and mental treatment, without effect, however.

Five months preceding present examination he began to have diurnal emissions also, which increased in number until he would have as many as eight during the twenty-four hours. They were usually accompanied by a partial erection and orgasm, although recently the sensation was much modified. He suffers with pains across the back and loins, dyspepsia, sensations of tingling in the glans penis, profuse sweats, general exhaustion and nervousness. He is very anxious about his condition and is unable to apply himself either mentally or physically.

Examination.—General: Poorly nourished, apathetic and feeble in bearing; appears to be 70 years of age. Reflexes, both superficial and deep, exaggerated. Local: External genitalia well formed, cremasteric reflex very active; no discharge from meatus. Urine (3 glasses) clear and negative both microscopically and chemically. Endoscopic: Posterior urethra deep purple in color, extremely sensitive to the touch, bleeds readily when swabbed. Mucous membrane on the floor of the prostatic urethra has the appearance of being lifted from the submucous layer; surface very irregular, covered with coarse granulations, and the normal folds obliterated. Verumontanum small and cyanotic in appearance, surface covered with granulations. No pus in the catheterized contents of the sinus pocularis. Prostate and seminal vesicles negative.

Treatment and Results.—Posterior urethra was swabbed twice with a solution of 10 per cent. silver nitrate through the endoscopic tube, an interval of a week elapsing between the two applications. Following this at intervals of five days the posterior urethra was dilated with a Kollman posterior dilator. Patient showed improvement from the beginning of the treatment and had but one emission during the next six weeks, at the end of which time the urethra appeared practically normal.

The patient left the hospital Aug. 13, 1912, stating that he felt perfectly well.

I heard from this patient a few days ago. He wrote that he had gained 40 pounds in weight, was entirely cured of his disease, and had had no indications of a return.

CASE 2.—J. C., fireman, aged 39, married, complained of "impotence and loss of sexual desire." I first saw him April 3, 1911.

History.—Family history was negative. Patient had had concussion of the brain five years previously. Six months afterward he had awakened on the street one day several miles from home and could not recall what had happened in the interval since leaving home several hours before. In 1906 he had had a severe attack of gonorrhea, since which time he had been unable to have an erection. He attributed this to the fact that his wife discouraged his advances; he acknowledged, however, that he had been equally unsuccessful with a woman whom he thought sexually congenial. He complained of headaches, insomnia, dyspepsia and nervousness; at times for the past six months before his appearance for treatment he had a continual aching pain in his left iliac region accompanied by a sense of what he described as "nothingness" in the region of his external genitalia. He stated that his penis was shrunken and looked like a "grub worm" when he felt this pain; he also had frequency of micturition and burning at such times.

Examination.—Cystoscopy, ureteral catheterization, roentgenoscopy, etc., of bladder for stone was negative. Endoscope showed the verumontanum to be the seat of a fibrous transformation. It was nodular, and the entrance of sinus pocularis was contracted so that it would with difficulty admit a very fine probe. The whole posterior urethra was infiltrated with connective tissue and practically insensitive to the touch. When prostate and seminal vesicles were stripped, plugs of brown fibrinous material half an inch in length were expressed with a quantity of pus. The normal constituents of these secretions appeared to be absent with the exception of a few spermatozoa which were motionless.

Treatment.—This patient made a slow recovery after prostatic massage twice a week for six months, posterior dilatations at intervals of five days for ten weeks and local applications of tincture of iodin through the endoscopic tube at weekly intervals until February, 1912, when he was discharged.

At present he states that he is cured as far as his nervous symptoms are concerned. Sexually he is at times impotent when with his wife, although he confesses that he has no difficulty with other women.

This is one of those unfortunate cases of relative impotence which is psychic and due no doubt to lack of sexual congeniality. As the physician cannot increase the element of brute in the male which would be necessary to overcome the mental inhibition of the sexual centers caused by the knowledge of the repugnance of the female to sexual contact, he can do little in this class of cases, as respects the relations of the patient with the female.

CASE 3.—H. S., fireman, married; complained May 4, 1911, of insomnia and general nervousness.

History.—Both family and past history are negative except that patient had had a chronic diarrhea for fourteen years; in going to and from work he followed a certain route on which were saloons and barber-shops where he could use a water-closet, as otherwise he would soil his clothing with feces. He denied any previous venereal infection of any character. During the two years preceding his appearance for treatment he had been unable to sleep more than one or two hours out of the twenty-four; then only when utterly exhausted. Lately he had been easily frightened, startled by any sudden noise and had been compelled to give up his work on account of his extreme nervousness. He was troubled with headaches, backaches, nervous dyspepsia. He had been treated for years for his diarrhea, but without effect, until he had finally given it up through discouragement. He urinated but once or twice during the twenty-four hours and then passed only a very small quantity.

Examination.—Urine was clear—no shreds—negative chemically. Centrifuged specimen showed a few red blood-corpuscles. A stricture which would admit nothing larger than a filiform was found in the membranous urethra.

Treatment.—Dilatation of the stricture completely relieved the conditions including the diarrhea. Patient stated that he had the first solid stool in many years and subsequent to his treatment was at times compelled to take a laxative. The other symptoms disappeared in three weeks. He has had no recurrences.

CASE 4.—H. H. H., clerk, aged 28, unmarried, complains of sexual weakness and nervousness.

History.—Patient states that members of his family always had nervous dispositions; family history is otherwise negative. Patient has never been sick. He denies venereal infection of any character whatever; has never indulged in coitus for the reason that he has never had an erection sufficiently complete to make intromission. For the past five years he has had considerable pain in the loins; insomnia which he attributes to worry over his condition; is easily fatigued and is increasingly nervous. He admits masturbation, but attributes his condition to some experiences he had when a boy with a woman considerably older than himself.

Examination.—Nov. 25, 1910: General: Patient very reserved, shy, hesitating, irresolute in bearing and anemic. Reflexes, both superficial and deep, exaggerated. Local: There was no discharge from the meatus. Urine was clear, but centrifuged specimen showed numbers of spermatozoa. Endoscope showed a very pale posterior urethra, the mucous membrane of which was distinctly anesthetic. The tube could

be passed and moved about freely without causing pain or bleeding, as is the case with normal urethrae. The ejaculatory ducts discharged a gelatinous substance containing non-motile spermatozoa into the end of the tube as it was withdrawn past their orifices; this substance also showed numerous pus-cells, as did the secretion from the prostate expressed at a subsequent visit. The right seminal vesicle was distinctly palpable and tender on pressure.

Treatment and Results.—He recovered under massage of the prostate and seminal vesicles and applications of salicylic ointment (5 per cent.) to the posterior urethra, the applications being made at intervals of a week.

He was discharged in July, 1911, and has had up to the present time no indications of recurrence.

CASE 5.—G. A. H., contractor, unmarried; complained of impotence, feeling of numbness from his waist down, insomnia, "sticking sensation" in his perineum, nervousness.

History.—Patient had had a severe attack of gonorrhea some years previously, accompanied by hemorrhage from the urethra; otherwise past history was negative, as was the family history.

Examination.—Oct. 8, 1911. The conditions present were chronic prostatitis, seminal vesiculitis and fibrosis of the verumontanum, the base of which was contracted so that the part had the appearance of a pedunculated tumor. The openings of the ejaculatory ducts projected from the surface of the mucous membrane, which seemed to have contracted about them.

Treatment.—The prostate and seminal vesicles were massaged twice weekly for ten weeks, at the end of which time the glands and their secretion appeared to be normal. The verumontanum was then swabbed every seven days with tincture of iodin and during the latter part of the treatment every fourteen days. The application of this was at first painless, but the part increased in sensibility as its appearance became normal and in the latter part of the treatment became quite sensitive. The applications of iodin were, of course, made through the endoscope. The patient was discharged in April, 1912.

CASE 6.—W. C. M., decorator, aged 25, unmarried, complained of "masturbation."

History.—Father is an alcoholic; eldest sister has "St. Vitus" dance. Patient had typhoid fifteen years ago; denies ever having had gonorrhea or venereal sores of any character. Right testicle was injured eight years previously, swollen for three days, and then became apparently normal. Patient states that he has always been "nervous" and easily excited. He has never had a complete erection, but when he was sexually excited would cross his legs and an emission would follow; this occurred pretty regularly every other day. He had insomnia, vertigo, pains in the back and loins; was exhausted easily; could neither make mental effort nor concentrate his thoughts on any one subject for more than a few minutes at a time.

Examination.—No discharge from the meatus. Urine negative microscopically and chemically. Urethral mucous membrane (posterior) abnormally pale in color and relatively insensitive to the touch; otherwise negative. Prostate very large, firm, symmetrical; no adhesions; median furrow present; no areas of induration; very sensitive to pressure. Large quantities of pus in the secretion expressed from the prostate. Seminal vesicles negative on palpation.

Treatment and Results.—When the prostate was massaged the patient had a vigorous erection, the first one, so he stated, that he had ever experienced. He has improved steadily both subjectively and objectively under treatment, which consists simply of prostatic massage twice weekly. Three months after the institution of treatment he had a successful coitus. This was the first he had ever experienced, although he had tried a number of times before appearing for treatment. His pains, insomnia and other subjective symptoms disappeared within eight weeks after starting treatment.

CONCLUSIONS

1. Sexual neurasthenia is always due to definite pathologic conditions in the genito-urinary tract.
2. The lesions may be in any part of this tract.
3. Because of the exceptionally rich supply of sensory nerve-endings in the prostatic urethra, the changes in this part, especially in the vicinity of the verumontanum, are most apt to give rise to this type of neurasthenia.
4. The conditions give rise primarily to a local neuritis or neuralgia which is the intermediate cause of the neurasthenia.
5. There may be in certain instances a toxic element which reduces the resistance of the sympathetic nervous system. This is especially true of infections of the seminal vesicles or prostate.
6. The condition is most apt to occur in those of hereditary or acquired neuropathic disposition.
7. The physical impotence resulting in many of these cases acquires a psychic element in the course of the disease which must be dealt with as a separate entity after the removal of the primary cause.

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THE TEACHING OF PSYCHIATRY

A REPLY TO DRS. BURR AND DERCUM

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The awakening of interest in the problems of insanity is leading to the recognition of the need for training the medical student in this important branch of medicine. In introducing this topic into the curriculum it is all-important that proper consideration be given to outlining the course of instruction. There recently appeared in THE JOURNAL two articles on the teaching of psychiatry by authors[1] whose names and deserved reputations must lend great weight to any cause they may champion. Inasmuch as they express extreme views it would not be untimely, it appears to me, to discuss and criticize the attitude taken.

In both papers the most striking feature is the wholesale condemnation of modern psychology, which both authors seem to consider as more or less synonymous with the Freudian theories. To Dr. Burr, who justly points out that the older psychology "does not make the study of psychiatry any easier or any clearer," the "newest psychology" is the "filthiest possible explanation of mental disturbance." If it is an explanation at all the use of such epithets is surely unnecessary and does not throw any new light on the problem. The detailed study of the stools, which is essential in some diseases, might well be called filthy, and yet it is not omitted for that reason, nor do those who perform the work become thereby contaminated. Dr. Burr adds that "surely the sexual element in insanity is large enough"; but apparently he thinks this sufficient reason for leaving it alone in disgust and not an indication for closer study.

Both authors seem to see in the Freudian doctrines nothing but "a means of mental cure." Dr. Dercum is satisfied with scoffing at the thought of spending from six months to three years in the study and treatment of a case, while he leaves it to be assumed that the

1. Burr, C. W.: The Teaching of Psychiatry; and Dercum, F. X.: The Teaching of Insanity, THE JOURNAL A. M. A., April 5, 1913, pp. 1054-1057.

patient could easily be "cured" in much less time by some other method of therapeutics, as if that demonstrated the falsity of Freud's conclusions and methods of study. He tells us also that the Freudian theory applied to dementia praecox is as old as the description of a disorder under that name by Kahlbaum and Hecker. Whether he intends thereby to imply that he concedes its truth or brands its falsity he does not make clear.

Whether we accept the extreme developments of the Freudian school or not there are involved in Freud's conceptions certain broad principles which are well founded in fact and are not in any way invalidated by the application he makes of them. These principles are not original with him, but it must be conceded that his work has done much to crystallize and clarify our views on a biologic basis, even if only, as some think, by giving rise to study and discussion.

All this has nothing to do with the question at issue, however, for no one has yet suggested that an attempt be made to teach the Freudian doctrines to medical students. This does not mean that therefore psychology should be excluded from the curriculum. One does not cut down an apple-tree because there have been grafted on it certain branches which bear fruit not to his liking. It is as impossible to teach psychiatry (abnormal cerebral functioning) without a basis of psychology (normal cerebral functioning) as it is to teach pathology without knowledge of physiology. If only the fundamental facts of the integrations in the lower unconscious nervous activities (Sherrington) were grasped as a foundation for the understanding of the corresponding conscious activities of the brain, many of the objections would be overcome. That stimulus which is of greatest importance to the welfare of the individual and species has a prepotent control over the effector mechanism of the body through the cerebral associative pathways just as it has through the spinomedullary connections. This principle must necessarily imply the overwhelming potency of problems of self- and race-preservation in conscious reactions (brain in action) as in reflexes.

The sole purpose underlying cerebral evolution, like all other evolution, is that of enabling the individual better to take advantage of his surroundings for the preservation of himself and his kind. Of these two ends, the latter, in adult man as in lower animals and even plants, is by far the more important. Hence we need not be surprised to find that disorder of the mind is present when these fundamental aims of life cannot be adequately accomplished. To put this in another way, the individual who is, for any reason, unequal to a suitable adjustment in the struggle for the satisfaction of his desires, these expressing only the biologic needs of self- and race-preservation, is abnormal. The clinical picture presented as the result of this failure to meet conditions will vary with the adjustments which the individual does make; for it is evident that since the prime laws of all living matter are those of self- and race-preservation some adjustment must always take place. These may be more or less unsuited to the purpose to which they are applied and their particular form will be determined by the nervous mechanisms present, whether inherited or developed by personal experience. Disease of the nervous system will, of course, act by interfering with the nervous associations. Some of the maladjustments arising from disease or faulty make-up represent what we call insanity.

A bridge will carry a certain load and will break down under a heavier burden. This is not necessarily due to rusting (disease) of its parts but may result simply from a demand beyond its strength. Why should we, then, hesitate to admit that some individuals are so constructed as to be incapable of withstanding the stress and strain of even an everyday life in the complex conditions of society? And why should we, with Dr. Burr, insist on "the fact that insanity is a disease just as typhoid fever and tuberculosis are diseases"? It is such conceptions as this which render it necessary for Dr. Burr to complain that "gentlemen who write popular articles for the magazines have impregnated the public with the idea that adenoids, lateral spinal curvature, ocular defect and other like things are the cause of all insanity."

Dr. Dercum especially emphasizes the "unfortunate tendency at present toward speculative psychology." It seems at least equally unfortunate that there should be also such a tendency to speculative pathology. By all means teach the *facts* of pathology which to be honestly carried out must include the facts of failures in adjustment as well as of disease processes; but let us avoid speculative relations to internal medicine as we do speculative psychology. In a recent article Dr. Dercum points out some admittedly hypothetical relations between dementia praecox and insufficiency of the adrenal system. Other authors (Berkeley) have advised, and successfully (*sic*) performed, the removal of part of the thyroid for the same disease on the equally tenable (or untenable) hypothesis of there being a hyperactivity of this system. Even the correlation between liability to dementia praecox and to tuberculosis, on which Dr. Dercum lays so much stress, is far from adequately demonstrated. It is not true that the great majority of dementia praecox patients die of tuberculosis, otherwise there would be no need for our huge hospitals for the insane, of which the vast majority of the inmates are in the terminal stages of dementia praecox. These individuals usually die of old age or some of its accompanying diseases. Bleuler makes the emphatic statement that the percentage of dementia praecox patients dying from tuberculosis in his clinic is not greater than that of the general population in the regions from which the patients are drawn. Even were the opposite a demonstrated fact it would not in any way prove that the ductless glands had anything to do with the development of the mental disorder.

The correlation with a liability to infection with tuberculosis would, even if proved, show nothing beyond the possibility that a body ill adapted to adjust itself to the complex conditions under which it has to conform to its biologic needs may be also ill adapted to cope with the micro-organisms which are part of its environment. It would be only another index of faulty make-up, exactly comparable with the instability shown by similar individuals in adjusting themselves to alcohol and other toxins.

If one were to judge from the articles by Dr. Dercum, one would be led to the conclusion that he believes that emotion, delusions, etc., are the result of faulty glandular activity. According to this line of reasoning a man would become angry and strike because his thyroid or some other gland was not functioning properly, and not because the situation in which he found himself called for this as an adequate response. Surely the more reasonable view is that the adrenal system cooperates with the rest of the body in making adjustment to the situation. This is expressed consciously as what we call a feeling of anger. Disorder of adjustment might then quite well be accompanied, without being caused, by disorder in

the function, not merely of the adrenal system, but of the whole body.

The psychology of the insane is in no wise a different subject from that of the sane. Thoughts, delusions, hallucinations and emotions are not secreted as is the bile or urine; they *are* the brain in a state of activity. Nerve-cells do not act by secreting thoughts; they merely serve as conducting mediums to harmonize the effector mechanism of the body with its environment. This conductivity may be raised or lowered both physiologically and by disease, but it nevertheless still remains only conduction. The only possibility in the way of disorder is therefore one of conduction and the same laws must hold in regard to nervous integrations in disease as in health. It may be true that certain paths have been destroyed by disease or rendered incapable of function in some other way. But the spread of nerve energy along the paths still intact and open will follow exactly the same laws of biologic importance and frequency as those which obtain in health.

Hence adherence to the methods of teaching which regard the various manifestations of disordered mind as independent "symptoms" cannot fail to create erroneous impressions and do more harm than good. It is absolutely essential that the insanities be studied as disorders of adjustment as well as in their relation to internal medicine, if any grasp is to be obtained of what the individual cases mean. In other words, they must be studied as psychologic, as well as pathologic, problems.

The value of such a biologic conception of cerebral or mental activities is not limited to the study of its specific disorders known under the name of insanity, but has a much broader application for the physician in his dealings with patients no matter what their ailment may be. It has too long been forgotten, in the practice of medicine, that we are treating not diseases but human beings, and that a knowledge of this individual's modes of psychologic adjustment may well have greater value in determining the actual procedure to be adopted than the broadest knowledge of materia medica. The importance of the patient's attitude toward himself, his environment and his health or disease is frequently greater, as regards etiology, therapeusis and outcome, than all other factors concerned, and yet it is the one which we most neglect. Mental disorders represent Nature's experiments, from which more can be learned concerning the biologic laws of conscious adaptation than from any other source.

The value of the study of psychiatry for the medical student is hence not limited, as Dr. Dercum suggests, to acquiring the ability to recognize mental disorders early and to handle them reasonably, but extends to the whole realm of the practice of medicine by the insight which it gives into the highest known means of adjustment. The study of these mechanisms is the psychology apparently banned by Drs. Burr and Dercum.

I wish to insist, therefore, that the broad principles of the newer biologic psychology are essential to and part of the study of even elementary psychiatry. Without them the teaching of mental disorders must remain a hopelessly unintelligible, dry-as-dust concatenation of uncoordinated observations.

Diagnosis Based on Probabilities.—Never indulge in that form of reasoning which is supposed to be based on probabilities. "An ulcerated lump of the tongue, the patient is a woman, therefore it is not likely to be carcinoma." Remove it and see what it is.—C. B. Lockwood, in *Clin. Jour.*

THE STAPHYLOCOCCUS-SPRAY TREATMENT OF DIPHTHERIA CARRIERS

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The presence of diphtheria bacilli in the throats and nasal passages of patients convalescing from the disease long after all clinical symptoms have disappeared constitutes one of the most prolific sources of infection the health officer has to deal with in combating this disease. Just what the average period of persistence in virulent cases of diphtheria is it is hard to say. Graham Smith and Cobbett's[1] tables give it as 31.6 days and estimate that one-third of the cases exceed this time. Our experience, however, has been that according to the cultural method the average period of persistence in Iowa is about sixteen days. Henry Albert[2] says:

> Unfortunately, however, there are some in whom the bacteria remain so persistently that they can still be found for from five to seven weeks, in one of our cases for seven weeks and in one case on record for twenty-three weeks after clinical recovery from the disease. Another condition which has been the subject of considerable study in recent years has been the presence of diphtheria bacilli in the throats of persons who are not, nor, so far as known, have ever been affected by diphtheria. These diphtheria bacilli carriers are of most frequent occurrence when diphtheria is prevalent in a community. Fortunately the bacilli living under such conditions are frequently of low virulence and in some instances have lost their disease-producing power entirely. On the other hand, their virulence is often of full strength and even though they may not produce any disease in the carrier, when transferred to other persons, they may produce the disease in its most virulent form. It is very certain that diphtheria has been kept alive for months in institutions and communities by such carriers. Indeed it is quite probable that carriers with either a normal throat or a slightly "sore" throat are the source of more cases of diphtheria than persons affected by well-marked cases of the disease.

A ruling of the State Board of Health in Iowa provides that before a diphtheria patient can be released from quarantine, two consecutive negative reports must be obtained from the State Laboratory on cultures taken from both nose and throat. During the last twelve months we have had a number of cases the cultures from which remained consistently positive after the normal period of persistence and after all manner of local treatment had been used. Following the reports of Schiötz,[3] Page,[4] Catlin, Scott and Day,[5] Lorenz and Ravenel[6] and others[7] who had successfully used the staphylococcus spray in such cases, we decided to use it in all cases from which the cultures remained positive after four weeks.

1. Nuttall, G. H. F., and Smith, G. S. Graham: The Bacteriology of Diphtheria, 1908, p. 421.
2. Albert, Henry: Diphtheria Carriers, Am. Jour. Pub. Health, ii, No. 10.
3. Schiötz, A.: Uskadeliggereke af Infektionsbaerre ved Difteri, Ugesk. f. Læger, Dec. 16, 1909; abstr., THE JOURNAL A. M. A., Jan. 29, 1910, p. 422.
4. Page, Henry: Diphtheria Bacillus-Carriers, Arch. Int. Med., January, 1911, p. 16.
5. Catlin, S. R., Scott, L. O., and Day, D. W.: Successful Use of the Staphylococcus Spray on Diphtheria Carriers, THE JOURNAL A. M. A., Oct. 28, 1911, p. 1452.
6. Lorenz, W. F., and Ravenel, M. P.: The Treatment of Diphtheria Carriers by Overriding with Staphylococcus Aureus, THE JOURNAL A. M. A., Aug. 31, 1912, p. 690.
7. Slack, F. H., Arms, B. L., Wade, E. M., and Blanchard, W. S.: Diphtheria Bacillus-Carriers in the Public Schools, THE JOURNAL A. M. A., March 19, 1910, p. 951. Kretschmer, M.: Zur Bekämpfung der Bazillenpersistenz bei Diphtherierekonvaleszenten, Med. Klin., 1911, vii, No. 3. Lydia, Dewitt: Jour. Infect. Dis., January, 1912.

The culture used was a composite one made by mixing equal portions of three different strains of *Staphylococcus pyogenes aureus*, isolated from throat-cultures. These were grown on agar and afterward transferred to broth. The material sent out was 30 c.c. of an eighteen-hour broth culture grown at 37.5 C. (99.5 F.). This was sent in a cylindrical bottle, the top of which was closed with a rubber cap and sealed with paraffin. Several sterile rubber caps were sent with each bottle.

The following set of instructions was also enclosed with each bottle of the culture sent out:

DIRECTIONS FOR USE OF STAPHYLOCOCCUS CULTURE:

The enclosed bottle contains a broth-culture of *Staphylococcus pyogenes aureus* and should be used in the following manner: Remove paraffin and rubber cap and pour a portion of the culture (enough for one treatment) into an atomizer, the bottle and application tubes of which have been sterilized by boiling for ten minutes. Spray the throat and nasal passages well.

NOTE.—1. One of the enclosed rubber caps should be replaced on the bottle immediately after using so as to prevent contamination. 2. The culture should be kept in a cool, dark place. 3. Care should be taken not to get any of the culture on skin of the patient, and if this happens the area should be thoroughly cleansed with alcohol. 4. Treatments should be given at least once a day. 5. The first culture should be made twenty-four hours after the first and before the second treatment. Subsequent cultures should be made at intervals of twenty-four hours until two consecutive negative reports are obtained from the laboratory.

In order to secure some statistics as to the real value of the treatment we also enclosed a blank data card which we asked the doctor to fill out and mail back to the laboratory after the patient was released from quarantine.

The accompanying table gives a summary of the results obtained in the first sixteen cases:

SUMMARY OF RESULTS IN SIXTEEN CASES IN WHICH STAPHYLOCOCCUS SPRAY WAS USED TO FREE PATIENTS OF DIPHTHERIA BACILLUS

Case No.	Ill and a Carrier, Days	Antitoxin Received, Units	Other Methods Used	No. of Treatments	Days Required for 1st Neg. Culture	Complications Due to Staphylococcus
1	29	15,000	Antiseptic spray	4	3	Slight edema of face
2	22	1,000	Alkaline antiseptic	5	3	Chronic nasal catarrh temporarily worse
3	58	17,500	Gargle	5	2	None
4	33	10,000	Mercuric chlorid spray	2	2	None
5	33	1,000	Pot. chlorate, hydrogen peroxid	4	4	None
6	36	3,000	Antiseptic gargle	2	2	Sore throat; slight fever.
7	35	8,000	Antiseptic gargle	2	2	Sore throat; malaise.
8	28	10,000	Hydrogen peroxid, glycerin and tannic acid	3	2	Slight redness of throat.
9	28	5,000	Pot. permanganate spray	4	5	Pharyngitis
10	44	5,000	Silver nitrate swab	4	4	None
11	*	None	Silver nitrate, 10 per cent.	9	7	Slight fever; nasal catarrh increased
12	40	5,000	10 per cent. ferric chlorid	12	8	None
13	21	5,000	Alkaline gargle	3	1	None
14	33	15,000	3 per cent. phenol spray	4	2	None
15	28	5,000	Hydrogen peroxid	5	3	Headache
16	29	20,000	Silver nitrate, 10 per cent.	13	†	Goiter somewhat increased in size

* Never had the disease but was exposed and gave positive cultures from August 29 to September 13.
† Released by virulence test.

In these cases all but three patients had carried the organism of diphtheria constantly for at least a month, and in one case the time of persistence was eight weeks. During this time, notwithstanding the fact that all manner of local antiseptic and astringent treatment was used, the patients continued to give positive cultures. This can be accounted for by the fact that in cases of this kind the organisms are usually in the deep tonsillar crypts which often become plugged, thus preventing the local application from reaching the organism. The antiseptic condition produced remains for only a few minutes because the excess of the agent used is carried out by the secretions. With the staphylococcus spray the effect seems to be different; whether or not this is due to some antagonistic action of the products produced by the organisms themselves it is impossible to say at this time.

In all but one of these cases the patient gave a negative culture within a week after the use of the staphylococcus spray was begun, and in the majority of the cases only a few applications were needed to free the throat from *Bacillus diphtheriae*. In one case this remedy failed absolutely and the patient was released by a negative virulence test. Possibly this failure was due to the culture having become inactive or to defective application. The fact remains that in all but one of the cases it was effective.

When this remedy was first introduced there seemed to be a general reluctance on the part of physicians to use it on account of the danger of introducing the live organisms into the throat and the consequent possibilities of such serious complications as otitis media, mastoiditis, etc. This fear seems unwarranted in view of the fact that it has now been tried in upward of forty reported cases and no serious results have been reported in a single patient.

Below I am giving the history of two typical cases showing the course of the disease and the effects of this treatment.

REPORT OF CASES

CASE 1.—A farmer, aged 21, came to office November 2, complaining that his throat had been very sore for a week. Examination showed membrane covering entire back of throat. The cervical lymph-nodes were enlarged and tender. The only constitutional symptoms were headache and slight malaise.

November 2: Culture showed large numbers of *B. diphtheriae*.

November 5: Five thousand units of antitoxin given.

November 6: Five thousand units of antitoxin given.

November 22: Culture positive; all symptoms had disappeared.

November 23, 26, 27 and 29: Culture positive.

November 30: Culture negative.

December 4: Culture positive.

December 7: Culture positive; staphylococcus spray used.

December 8: Culture negative; staphylococcus spray used.

December 9: Culture negative; staphylococcus spray used.

No constitutional symptoms followed the use of the staphylococcus spray. The throat was red and slightly swollen for one day.

Local applications of hydrogen peroxid, and glycerin and tannic acid were used in throat and nose during the duration of the disease and of the carrier condition.

CASE 2.—A boy, aged 13, developed a typical case of diphtheria, July 21, which ran as follows:

July 21: Culture positive.

July 24: Five thousand units of antitoxin given.

July 25: Seven thousand five hundred units of antitoxin given.

July 31: Membrane disappeared and patient was apparently well.

August 7, 10, 17 and 23: Culture positive.

August 25: Five thousand units of antitoxin given.

August 29: Culture positive.
September 3: Culture negative.
September 6: Culture positive.
September 10, 11 and 12: Staphylococcus spray used.
September 13 and 14: Culture negative.

There were no constitutional or local symptoms traceable to use of the spray.

It will be seen that each of these patients developed a typical carrier condition. In each case the membrane disappeared and all clinical signs and symptoms of the disease were stopped shortly after the antitoxin was given; notwithstanding the fact, however, that the patients seemed perfectly well, their throats continued to give positive cultures for several weeks. In each case there is one negative report on a culture after which the reports were again positive. This may be due to the local antiseptic treatment having been used shortly before the culture was taken, or to carelessness on the part of the physician in taking the culture. In neither case did it require more than three treatments with staphylococcus culture before a negative culture was obtained.

CONCLUSIONS

In view of all these facts I think that the following conclusions are warranted:

1. No patient having had diphtheria should be released from quarantine until at least two consecutive negative cultures are obtained from both nose and throat, and ear if symptoms are present.

2. Antitoxin will not free the patient from the carrier condition but some local application is necessary to rid the throat and nasal passages of *B. diphtheriae*.

3. In fifteen out of sixteen cases the staphylococcus spray effectively cleared the throat of *B. diphtheriae* after other methods had failed.

4. Apparently no harm resulted to the patient from the use of the spray.

A REPORT OF A CASE OF THROMBOSIS OF THE INFERIOR VENA CAVA

THOMAS WILLETT, M.D.
AND
E. W. MAECHTLE, M.D.
WEST ALLIS, WIS.

The report of the following single case seems warranted on account of the infrequency of ante-mortem diagnosis, and because of the favorable outcome through the establishment of collateral circulation. We claim no credit whatever for the recovery course, and very little for the diagnosis, which we realize was the result of unusually favorable circumstances:

Patient.—A woman, American-born, aged 30, weighing about 125 pounds, and presenting a somewhat under-nourished and anemic appearance. Family history good.

History.—No infectious or chronic diseases are reported, and no vaginal discharge, swelling of legs, or ascites up to the last pregnancy. Menses began at 14 and are of the regular twenty-eight-day type. Patient has four living children, the youngest born Dec. 20, 1912, and has had two miscarriages; one a pregnancy of a month's duration, between the second and third child, the other of three months' duration, between the third and the last. During the sixth month of her recent pregnancy, a marked albuminuria developed with some hyaline casts, granular casts, and white blood-cells, which findings were accompanied by slight swellings of the feet. This condition cleared up under rest, diet, diuretics, hot packs and catharsis. We examined the urine at biweekly intervals until December 1, or the middle of the last month, when it again showed albuminuria, hyaline casts, granular casts, and white blood-cells. The patient complained of headache at this time, and the feet were slightly swollen. These symptoms, however, again vanished, with treatment as before. On our arrival to attend labor, December 20, the patient was found in a slight general convulsion. Examination showed two fingers' cervical dilatation. A podalic version was done, and a living but nearly comatose child was extracted. After free bleeding, normal salt solution was given per rectum, together with some stimulation. No more convulsions were noticed, and the patient went through, to all appearances, a normal postpartum course, except that she remained very weak, and continued to exhibit a toxic uremic appearance. About three weeks following childbirth, the patient complained of pains in the lower extremities, most severe in the right. She was put back to bed, feet elevated, and hot packs applied to the inner aspect of the right thigh and groin, where the pain was most severe.

Examinations.—The urine presented only a trace of albumin, no casts, and only occasional white cells. In the right lumbar region the kidney could easily be palpated, being slightly swollen and quite tender. Two weeks later, Jan. 31, 1913, she was removed to a Milwaukee hospital for more careful study. Blood examination showed a hemoglobin percentage of between 50 and 60; 8,000 leukocytes and 3,500,000 erythrocytes. The urine diminished in quantity until on the third day only 4 ounces were obtained by catheter in twenty-four hours. Urinalysis showed albumin, casts and a large number of white cells. A blanched uremic appearance with an expression of anxiety, were present with extreme tenderness and pseudorigidity on the right side of the abdomen. This diminished under morphin, and a regular, smooth mass, in the right iliolumbar region, became palpable. The temperature had varied from 99 to 102.6 F., with pulse from 90 to 120 during these three days. A tentative diagnosis of right perirenal abscess was made, and in consultation with Dr. Maurice Henderson of Milwaukee exploratory operation was decided on.

Operation.—Feb. 3, 1913, under light ether anesthesia, incision was made in the right lumbar region. Considerable serous fluid escaped from the right perirenal space, and the right kidney was found displaced downward and anteriorly, but freely movable. It was slightly enlarged, and very red and hyperemic. Behind the kidney an elongate, tubular, regular, hard structure was seen, and on examination was found to be the inferior vena cava, completely thrombosed from its bifurcation into the iliac veins to its passage through the diaphragm. Drainage was put into the perirenal space, the wound closed, and the patient returned to the bed in a fair condition.

Postoperative History.—Considerable serous fluid drained from the wound for several days, but this gradually diminished and the wound was allowed to close. On the second day urine was voided which showed approximately the same amount of albumin, casts and blood-cells as before the operation. The temperature varied for the next two weeks from 98 to 102 F., but gradually the periodic rises diminished until normal was maintained. Tenderness over the kidney and the right umbilical region gradually decreased as discharge lessened and the kidney returned to more nearly its normal position. During examination of the patient on the third day following the operation, marked enlargement of the superficial veins of the thigh, superficial circumflex iliac veins and superficial epigastric vein of the right lower quadrant was observed. These became more and more prominent and were followed by a similar condition on the left, though not as extensive. For several weeks following her discharge from the hospital the patient complained of tenderness over these veins and discomfort when attempting to stand erect or extend the legs.

Her general condition during this time was good, appetite fair, urine normal in amount and free from albumin, casts or blood-cells. Blood-counts at intervals show from 80 to 90 per cent. of hemoglobin, 4 to 5 million red corpuscles, and 6,000 to 7,000 leukocytes per c.mm.

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April 15, 1913: Patient is up and about, doing her own housework, and apparently her compensation is very efficient, for with the exception of an occasional swelling of the feet after being on them for a long time, she experiences no discomfort.

625 Seventy-Second Avenue.

PERSISTENT HICCUPS

A. J. CAFFREY, M.D.
MILWAUKEE, WIS.

I feel that I should report the following case for a twofold reason: first, because of the immediate response to the drug of the troublesome hiccups which had been persistent for eight days, and were fast sapping the patient's strength and vitality; and secondly, on account of the clearing up of an old chronic bilateral exuding eczema on the flexor surface of the arms.

History.—The patient, J. R., bachelor, 48 years old, was a large, healthy-looking fellow with ruddy complexion, probably due to his occupation; he was foreman of the signal service of a large railroad, and his work kept him out of doors in all kinds of weather. While not a tectotaler, he was abstemious. Mother died following an operation for gallstones; father died of old age; one brother and one sister were living and healthy, except that the brother was troubled with eczema on one hand.

Present Trouble.—Patient called me Feb. 28, 1913, for hiccups, which had persisted for four days before I saw him. He was fast breaking down and losing his healthy appearance.

Examination.—Pulse was 58, temperature normal, systolic pressure 140 mm., diastolic 90 mm., leaving a fairly high pulse-pressure of 50 mm. He could give no reason for his condition unless, as he said, it was due to a drink of cold beer which he had taken forty-eight hours before the hiccups started. This seemed to me a rather long "incubation" unless there is some special toxin or irritant in our "famous beer" which takes two days to show its effect. He complained of soreness in the epigastrium and intercostal muscles, which was probably due to the continual spasms of the diaphragm. There was slight tenderness at McBurney's point, but the abdominal muscles were lax and there was no indication of appendicitis. He had been troubled for many years with chronic exuding eczema of the arms.

Treatment and Results.—A soap-suds enema was given and stomach lavage was tried, with no relief. I gave large doses of bicarbonate of soda and bismuth, but without any appreciable result. I tried flexure of the thighs on the abdomen, with pressure against the diaphragm, according to the method of Jödicke.[1] I also tried F. Kanngiesser's[2] method, giving 5 gm. of citric acid in one glass and the same amount of sodium bicarbonate in another to promote effervescence in the stomach and get pressure on the diaphragm. I also tried rhythmic traction on the tongue, without avail. I then took Osler's advice and resorted to morphin, without letting the patient know what he was getting. He obtained rest only under the influence of morphin; when he awoke his hiccups would return. Four days after I was first called, eight days after the trouble began, after resorting to several other things, I finally consulted Dr. L. F. Jermain, who suggested atropin. I wondered why I had not thought of this drug before, as it was clearly indicated in this case, which was, without doubt, a case of what Eppinger and Hess called "vagotony"; in other words, the hiccups were due to some abnormal excitability of the inhibitory fibers of the vagus nerve, a fact which could have been gleaned from the bradycardia. After one injection of 1/50 grain of atropin, the patient's hiccups stopped and never returned. I continued giving 1/50 grain atropin once a day for eight days. Pulse increased to 70, appetite returned and the persistent chronic weeping eczema healed and dried up, leaving the patient's arms in a generally healthy state.

I have searched the medical literature thoroughly and find no other instance in which atropin has had such an effect on chronic exuding eczema. It is not my intention to recommend it as a routine treatment for this condition, but merely to report what occurred coincidently in the treatment of hiccups. After it was suggested no treatment was given other than the injection of atropin.

600 Grand Avenue.

1. Jödicke, P.: Med. Klin., Berlin, May 28, 1911.
2. Kanngiesser, F.: Persistent Hiccough, Med. Klin., Berlin, March 26, 1911.

ONE GAUZE SPONGE REMOVED FROM BLADDER, ANOTHER FROM THE VAGINA, MONTHS AFTER A DUEHRSSEN OPERATION FOR PROLAPSE

HENRY DAWSON FURNISS, M.D., NEW YORK

Stoeckel[1] reports the removal from the bladder of a gauze sponge that had wandered there after a Dührssen operation. He had another case of sponge in the bladder following an abdominal operation. He states that Kermauner is the only one who has made a diagnosis before operation of gauze sponge in the bladder. In my case, the history of which follows, the diagnosis was made before operation.

Patient.—A woman 43 years old had a Dührssen interposition operation for prolapse in the summer of 1911. Immediately after the operation there was much wound discharge of a seropurulent nature, and the patient ran a temperature of 100 to 101 F. for eight or ten days. Shortly after leaving the hospital she began to have bladder discomfort, which gradually increased. At the end of five months, when this discomfort was extreme, I performed a cystoscopy and found that the portion of the bladder in the region of the right ureter showed bullous edema, which obscured the ureteral orifice, over an area the size of a half dollar, and later I again did cystoscopy and was surprised to see a small portion of gauze sticking from the middle of the edematous area. The patient was advised to come to the hospital. She went home and the next day had a sensation as if something had given away, and afterwards was unable to pass her urine. The suffering from the retention was intense and catheterization was necessary. The next day, under ether anesthesia, with the patient in the knee-chest posture, through a No. 12 Kelly speculum, I removed a small probang sponge with no difficulty at all. Following this the cystitis rapidly cleared.

Three months later the patient again called and said that for two weeks she had had a profuse watery vaginal discharge. With the patient in the knee-breast posture and the perineum retracted with a Sims speculum, a small bit of gauze was seen protruding from a small opening in the anterior vaginal wall. By constant traction another small probang sponge was removed. After this the patient recovered completely and the result of the Dührssen operation was entirely satisfactory.

The noteworthy features of this case are the complete closure of the wound in the presence of a foreign body, the appearance of one sponge in the bladder many months after the operation, and the other in the vagina months subsequent to this.

393 West End Avenue.

1. Stoeckel: Ztschr. f. gynäk. Urol., January, 1913, No. 1.

Municipal Health Work.—No city can know its own health conditions—no city can determine offhand whether its preventable diseases are excessive or not—unless there are available the data of other cities of like size and similarly situated. The average citizen becomes so accustomed to the prevalence of disease about him that he regards the condition in his home town as "normal" and "inevitable."—Birth and Death Bookkeeping, bulletin used by Association of Life Insurance Presidents.

Special Article

BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

(Continued from page 1792)

VIII

COMMERCIAL MIXED VACCINES

It has been repeatedly asserted that vaccine therapy with marketed stock vaccines is far from satisfactory in actual practice, notwithstanding the widely advertised claims to the contrary. The mixed vaccines of commerce furnish evidence of the correctness of this assertion. Had vaccines of single bacterial species been successful, no firm in the vaccine business would have had occasion to offer the many and ridiculous combinations now on the market. A physician who embarks in vaccine therapy with commercial vaccines soon encounters the inevitable obstacles to success. By the vaccine maker he is led to ascribe these shortcomings to a variety of causes, none incriminating the method of second-hand treatment by the agency of these products. A faulty bacteriologic diagnosis, a mistake in dosage, a mixed infection, these or similar reasons are advanced to account for the lack of success. The theory of mixed infections leads to the idea of injecting several species of vaccines in one operation. To facilitate their use the manufacturer hits on the expedient of combining or mixing them. Once started, and with the impetus of ever-increasing competition, no end to the possible varieties of vaccine mixtures is in sight, unless this end is ordained by the physician himself. That the situation resolves itself into an imposition on the profession is the opinion of those whose practical familiarity with the subject best qualifies them to judge. A burden is being forced on the profession which will speedily assume the proportions attained by proprietary drug combinations. The menace can not be counteracted unless physicians will accept the guidance of unselfish, non-commercial interests and refuse to purchase and use mixed commercial vaccines.

THE MIXED STOCK VACCINE A MAKESHIFT

The mixed stock vaccine of commerce is a makeshift. It is offered as a substitute for correct diagnosis. Like all such makeshifts in science it is doomed to failure. A canvass of the situation which shows that the medical profession is deluged with mixed vaccines of ever-increasing complexity, justifies this assertion. Since no limit to the absurdity is set by the manufacturer, one must be instituted by the profession itself. Such a limit would abolish all the ready-mixed vaccines on the ground of their having no rational indications for use, and because of their failure as therapeutic agents.

MIXTURES TO BE MADE BY THE PHYSICIAN

Ready-mixed stock vaccines, even of the simplest possible composition, have nothing to recommend them. For those physicians who cannot prepare their own vaccines, or whose association with competent bacteriologists is not close enough to have autogenous vaccines prepared for them, the marketed stock vaccines of individual bacterial species should be available, to be mixed as occasion requires Instead of trusting to combinations so outlandish as most of the commercial mixed vaccines, a careful practitioner who ventures far enough into vaccine therapy to undertake the treatment of mixed infections should make his own mixtures. Such mixtures should preferably have as their indication the findings of a bacteriologic analysis, either by culture-test or by study of smear preparations. It is rare indeed that more than two bacterial species play a simultaneous pathogenic rôle in a mixed infection; hence the folly of injecting multiplex vaccines where the superfluous bacterial species are certainly wasted, and where they may nullify the effects of those properly indicated, or even work harm in other ways. In fact, there is still a well-founded doubt as to how far the germ of a secondary or a mixed infection is to be held accountable for the morbid process. Many authorities believe that in these complicated infections there is but one original and primary causative microbe whose conquest by natural or artificial agencies suffices. Diphtheria, for instance, is always a mixed infection if one may judge from the bacteriologic flora from a diphtheritic throat. Still the prompt neutralization of diphtheric toxin by antidiphtheric serum usually disposes of all infection. Should the antitoxin fail in this, no vaccine or combination of vaccines, even if directly derived from the afflicted individual, improves the situation.

INCOMPATIBILITIES OF MIXED STOCK VACCINES

In the matter of chemical and therapeutic incompatibility there is still much to learn concerning our best-known drugs. Then consider bacterial vaccines—therapeutic novelties—which the most advanced bacteriologists hesitated to use ten years ago. What do we know about the chemical or physical interactions or incompatibilities of mixtures such as are to-day forced on the medical profession? When it comes to the problems of biologic or physiologic incompatibility of mixed bacterial vaccines, our ignorance is complete. Ignorance so complete should beget a fitting meekness, rather than blind folly such as attends the use of multiplex vaccines and allied products.

Experiments often repeated and clinical trials rigorously controlled form the only rational modern basis for recognizing therapeutic agents in medical practice. Why should these trials of biologic novelties be made by the private practitioner to satisfy the shortcomings of commercial firms? The welfare of his patients and his own reputation are at stake; the situation is too serious to be dominated by purely mercenary considerations.

IDEAL VACCINE THERAPY

Under ideal conditions vaccine therapy would be prosecuted only by those physicians whose training in the several special fields of bacteriology, immunology and practical medicine had thoroughly qualified them to pursue the treatment with scientific discrimination and caution. The problem of a commercialized field would then be solved, for commercial vaccines would not flourish for want of a market, and commercial laboratories purporting to supply effective autogenous vaccines would languish for lack of patronage. But under present conditions such a desirable state is unattainable. In reality the medical profession has allowed itself to be exploited by mercantile interests to a point at which promiscuous vaccine therapy with all its faults is widely practiced. The pressing problem therefore becomes one of so directing the practice as to secure the utmost advantage to the profession and the public. To this end the following recapitulatory recommendations are offered:

* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago; David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

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Commercial Vaccines of Single Species Alone Desirable.—As material for his experiments in vaccine therapy the practitioner who relies on the market products should supply himself with vaccines of individual bacterial species. The physician should learn to discriminate cases in which stock vaccines can be successfully used, and procure a stock representing this selection.

Simple Stock Container Recommended.—For keeping his stock vaccines, the physician should insist on being supplied with a simple, inexpensive bulk container covered by a rubber cap or similar device to permit the ready withdrawal of portions of the vaccine without contamination of the remainder. A vaccine bottle fashioned on the model of Wright's original one, as previously described, answers the purpose admirably. This container should hold a suspension of killed bacteria sufficient to furnish at least twenty-five doses of average size. The package should contain not less than 10 c.c. of bacterial suspension, so concentrated as to yield the average dose for a given species in 0.25 c.c. A larger package of 25 c.c. would be convenient when the vaccines are employed more frequently. To illustrate the foregoing suppose the vaccine to be of staphylococcus, suspended in 10 c.c. of fluid, and of such a concentration that 1 c.c. contains 1 billion killed cocci. An average dose, or 250 million, would be present in 0.25 c.c. of the stock vaccine. With a properly graduated syringe the required amount of vaccine could be withdrawn, and if a very small dose, say 10 million, were required, boiled water or sterile saline solution could be drawn into the syringe after the vaccine to bring the fluid to a volume (0.5 c.c. to 1 c.c.) convenient for injection. A bulk package of this description would furnish enough vaccine to treat a single patient over a considerable period or to treat several patients, and, what is still more important, would allow the physician to exercise voluntarily that latitude in dosage so fundamental to success.

Cost of Bulk Package.—A bulk package or vaccine bottle as above described containing a suspension of any single bacterial species in amount sufficient to yield twenty-five or more average doses could be profitably furnished at a price not to exceed that now set on a single dose of commercial vaccine contained in a single bulb, bottle, ampule or syringe. Certainly there is no reason why the bulk stock vaccines here referred to could not be marketed at a price considerably less than that at which a package of vaccine virus (small-pox) of ten points or capillary tubes is offered. For economy and convenience the advantages of the outfit are such as to warrant its general adoption.

To Prepare Mixed Vaccines.—A supply of bulk containers representing the usual bacterial species not only arms the physician to undertake the treatment of simple infections, but also supplies him with the material by which he can prepare his own mixed vaccines. It is only necessary to combine the vaccines of such single species as are indicated, in such doses as experience has shown to be adequate. All of this is readily accomplished by withdrawing into a syringe from the several bulk containers the requisite quantity of bacterial suspension to meet the requirements. Presumably the indications for a mixture of this kind have been furnished by a bacteriologic analysis, preferably a culture test, or less desirably by microscopic examination of stained smear preparations. But even though this expedient at once assures an independence of the drawbacks of commercial ready mixed vaccines, it does not diminish the weight of a number of objections raised on good scientific grounds relative to the use of any sort of mixed stock vaccines.

NOTE.—In these articles the subject of phylacogens has not been considered, because, being neither serums nor vaccines, but in large measure toxic products of the metabolism of bacteria, they do not come within the scope of the present series. They have not been scientifically investigated; they are not standardized, nor are they standardizable; most serious and even fatal results have followed their use.

(To be continued)

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLE HAS BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. ITS ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

SOLUTION AMYLENE-CHLORAL (50%) Kalle.—Solution of amylene-chloral (50%) Kalle is a 50% solution by weight of methylbutanol-chloral, $CCl_3CH(OH)OC(C_2H_5)(CH_3)_2$, produced by union of chloral, CCl_3CHO, and 2-methylbutan-2-ol (amylene hydrate) $CH_3CH_2C(CH_3)(OH).CH_3$.

Absolute amylene-chloral (methylbutanol-chloral) is a colorless, oily liquid of characteristic, camphoraceous odor and cooling, burning taste. Soluble in alcohol, ether, acetone, and fixed oils in all proportions. It is insoluble in water, but on long contact with it goes into solution. On the further addition of water, separation occurs. Specific gravity, 1.24. Boiling-point —23 C. (—9.4 F.) with decomposition.

Actions and Uses.—Much like those of hydrated chloral, but with less power to abolish the reflexes and less irritant. It is used as a hypnotic and in mania.

Dosage.—The dose of solution amylene-chloral (50%) Kalle in insomnia is 0.5-1 Cc. (8-15 minims), in mania 1.5-3 Cc. (20-45 minims). Solution amylene-chloral (50%) Kalle is not adapted for hypodermic use as it is apt to give rise to irritation at the point of injection.

Manufactured by Kalle and Co., Aktiengesellschaft, Biebrich a. Rh., Germany (Merck and Co., New York). U. S. patent No. 635,471 (Oct. 24, 1899, expires 1916). No U. S. trademark.

Solution of the Problem of Fee-Division.—The whole question of fee-division, according to the *Journal of the Indiana State Medical Association* "resolves itself into one of just and adequate compensation for the general physician, and he is his own worst enemy in all efforts to better his condition. Either he does or he does not earn the fees he gets out of his surgical cases. If he earns them then let him charge and collect from the patient. If he does not earn them then he is not entitled to them as a gift from the surgeon, who ought to earn all that he charges. . . . The solution of the fee-dividing proposition, if the medical profession is to solve it, largely resides with the general physician. He must stop trying to get something without giving an adequate return. . . . He must try to raise his own level instead of trying to pull others down to his present level. He must, in company with every physician in general practice or a specialty, build up instead of tearing down, and, last but not least, he must be fair to patient and himself, and morally and ethically true to his profession. He cannot be this and indulge in fee taking from the surgeon."

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SATURDAY, JUNE 14, 1913

PURE FOOD WELL COOKED

There is some truth in the assertion that neither states' rights nor slavery, but the frying-pan, brought on the Civil War; for frying encapsulated the food in a layer of fat impervious to the digestive juices, and the resulting indigestion aroused the mutual enmities and the berserker rage of our fathers. America is preeminently the land of the deadly hot bread, the sinker, the flapjack, the Bingo frankforter, the quick lunch, dyspepsia, with its consequent neurasthenia, and the stomach bitters, which often approximate whisky in alcohol content. It would not be difficult to prove that "bad cooking has driven many a man to drink." Not only are our meats often badly cooked, but also vegetables are frequently boiled in a way which deprives them of their characteristic odor and their toothsomeness. "Villainous and idiotic" are the only adjectives that can describe our methods of cooking vegetables, in the opinion of Henry T. Finck,[1] in his gastronomic guide to health and good living. We make other dietetic errors when we sugar our salads and salt our fruits. There would seem to be among our people, in larger measure than elsewhere in civilization, a contempt for the culinary art, as if it were beneath notice, or decadent, or savoring of the effete old world. Yet what in life can be more essential than the right preparation of substances which are to keep the human machinery going, in order that the best may be got out of it, with fewest slowings down or interruptions?

In the Old World the relation of zest and fragrance to food is held vital, and justly so. Great Europeans, indeed, have seriously interested themselves in such matters. It is a dictum on the Continent that the *saucier* is born, not made. On numerous occasions the elder Dumas invited friends to dinner, personally prepared the most succulent dishes, and then, exchanging his cook's attire for his dress clothes, regaled his cronies with the products of his "noble art." Montaigne wrote a notable book on the science of cooking. Frederick the Great praised his cook in verse—the former being much better than the latter. Lord Bacon thought it no shame to bend his mighty intellect to the problems of the kitchen. The composer Rossini composed salads as symphonic in their way as his operas, and regretted that by reason of his neglected early education he could not have made cooking, rather than music, his profession. In Brillat-Savarin's great work, "The Physiology of Taste," are axioms as profound—at least as entertaining—as ever Plato or Epictetus set down. For example:

"The education of the tastes and the appetite should be an index of the degree of civilization."

"Digestion, of all bodily functions, has most influence on the morals of the individual."

"A good dinner is but little dearer than a bad one."

"The most momentous decisions of personal and of material life are made at table."

"The fate of nations depends on how they are fed."

"The man of sense and culture alone understands eating."

"The discovery of a new dish does more for the happiness of the human race than the discovery of a planet."

Louis XVIII invented a famous dish—which is perhaps the best thing he ever did for his people. The Prince of Condé won international fame as the inventor of an improved bean soup. Richelieu, Colbert and Mazarin were celebrated for like achievements.

It does not follow that, in emulation, our chief magistrate should add to his already illustrious services by donning an apron and inventing an entirely original *sauce princetonnaise;* or that our genial Secretary of State should aid our visitors from foreign courts to forget the episode of the unfermented grape-juice, by evolving for their delectation a *consommé à la Commoner.* But our fellow citizens and their better nine-tenths, and our doctors, and most emphatically our nurses, ought to make pure food well cooked a matter of serious national import. The only animal which cooks its food is man, and this is a badge of distinction from the brute. We cook food for at least four reasons: to sterilize it, to make it nutritious, to render it more easily digestible, and to improve or vary its flavor. The last of these is at least as important as any of the others. When the gustatory nerves tingle in response to the stimulus of some rare condiment or aroma, the saliva flows in joyous excitement, and the digestive juices, by whose benign influences food is transformed into nourishment, respond in salutary and fullest measure. The simple and pleasant way to bring this about is to pay proper attention to the flavor of food.

1. Finck, Henry T.: Food and Flavor, New York, the Century Company, 1913.

RADIUM IN THE UNITED STATES

The applications of radium in the domain of medicine and the possibilities of its ultimate efficiency in the treatment of disease are still too little understood to permit of any generalizations or unchallenged statements in respect to radiotherapy. The readiness with which the quack and nostrum faker have adopted the unproved virtues of radio-activity in the prosecution of their lucrative nefarious practices is familiar to those readers who

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have followed our Propaganda for Reform and have become acquainted with the exploitations of Radol, Radio-Sulpho, and others of that class. Despite this unfortunate misuse of the newer contributions of chemistry which include discoveries that already have revolutionized our ideas regarding the constitution of matter, it must be admitted that radium with its unknown possibilities as well as its marvelous properties has entered into both medical thinking and doing in a way that cannot be overlooked. The alleged potency of the element is only exceeded by its actual price.

Radium institutes have been established in Austria, France, Germany and England; yet few persons are cognizant of the fact that the United States has radium-producing deposits within her borders and has taken the palm from Austria as the radium-producing country of the world. The experts of the Bureau of Mines have lately revealed a situation in respect to this unusually valuable element which leads to the rather surprising conclusion that while all the radium placed on the market in the last few years has been produced in Europe, a large portion of this output has come from American ores.[1] Carnotite and pitchblende are the uranium minerals which carry the radium. Practically the total American output of pitchblende, the richest of these, has come from the mines in Gilpin County, Colorado. Pitchblende of the highest grade was sent out of the country at a time when the world's radium output was supposed to be coming from Austrian ores. Parsons has pointed out that while the Austrian government, realizing the untold possibilities of the radium ores of St. Joachimsthal, has purchased the mines, put their output under direct governmental supervision, and entered into an arrangement whereby this ore is worked up in cooperation with the Vienna Academy of Sciences for experimental purposes in a carefully administered radium institute, America has allowed her much more extensive resources to be exploited on a basis which wastes perhaps irretrievably a large portion of the material mined, and has exported carefully selected ores at a price by no means commensurate with their radium value if worked up at home. At least 20 or 25 tons of high-grade pitchblende have already been sent out of the country.

Of late the foreigners have realized the value of our carnotite resources. This mineral, which always carries vanadium as well as uranium and radium, is purchased almost wholly on its radium content. The more important deposits are scattered over a considerable area in Colorado and Utah. The U. S. Bureau of Mines has discovered that these ores are being shipped abroad in some quantity. An idea of the position of this country in the matter may be gathered from the official data. During the last year, carnotite was produced carrying 28.8 tons of uranium oxid (U_3O_8), from which 8.8 gm. of radium chlorid or 11.43 gm. of radium bromid could be obtained. Practically all of this ore was shipped abroad for the extraction of radium. The value of the radium salts extracted would be $528,000 at the minimum market price. The total supply of radium salts from all other sources including the Austrian mines was probably not more than 3.65 gm. of radium chlorid, basing the production of the Austrian mines for 1912 on that of 1911, which is known. According to the government information it is quite certain that if the ores which have been mined in this country and abroad and sold for radium production have been actually worked up into this material, there is now in existence something like 40 gm. (1¼ ounces) of radium. The price of radium salts varies somewhat. In large quantities it has been $60,000 per gram for both radium chlorid and radium bromid, although the latter contains less metallic radium in proportion to its weight than the former. It should be remembered, therefore, that it is more advantageous to purchase radium chlorid than radium bromid. In small quantities the average price has been $80,000 per gram, which represents about $2,250,000 an ounce.

Bearing in mind that practically every ton of radium-yielding ore mined in 1912 went abroad, that the American deposits are by no means inexhaustible, that we are rapidly depleting our reserve and shipping away material of great value and unknown possibilities which cannot be replaced, that the American medical fraternity has been compelled to procure from abroad such radium as individuals or hospitals could afford, and that the study of the possible application of radium in a therapeutic way has been hampered greatly by its almost prohibitive price, we must welcome an investigation of the situation by American authorities. Scarcely any one has taken up the extraction and refining of radium in this country—the very place where carnotite ores that cannot find a market in Europe are to-day being thrown on the dump and wasted. Perhaps when the days of conservation of our natural resources at length arrive we shall be glad to concentrate and conserve what our foreign friends once rejected when they were exploiting the treasures to which we ourselves were blind.

1. This and other statements quoted are taken from the authorized report of experts of the Bureau of Mines, presented before the American Chemical Society at Milwaukee in March, 1913, by Prof C. L. Parsons. For details see Jour. Ind. and Eng. Chem., 1913, v, 356.

HEALTH, HYGIENE AND HAUNTED HOUSES

It is by no means a new experience to find the miracles of ancient days and the mysteries of occult arts fading away in the light of modern science. The bloody bread of the Middle Ages, for example, with its sinister forebodings and religious implications, has to-day become a simple demonstration in bacteriology. Unexpected luminous surfaces appearing in the absence of any visible source of light are easily explained by any student of the biology of phosphorescence. Even the almost impenetrable marvels of the active mind as well as those curious manifestations, like hypnotism, which pass

under the name of psychic phenomena are yielding to the attempts at a rational interpretation. Weird visions and strange ghosts have at length become the expressions of a disordered mind rather than the visitations of an offended deity. And now the "haunted" house—chronicled in fiction and actually shunned in real life—has been deprived of its mystifying wonders and frightful horrors by the findings of twentieth century hygiene.

Dr. Franz Schneider, Jr.,[1] of the Massachusetts Institute of Technology, has investigated a house in the Back Bay district of Boston which had acquired the annoying reputation of being "haunted." The experiences which led to the investigation were too serious, the symptoms too real, the reports too often repeated and reliable to be overlooked or regarded as mere hallucinations. The slumbers of the inmates in the upper stories were disturbed by strange sensations, such as those of oppression or paralysis; they frequently continued after the sleeper was thoroughly awake and even after the lights had been turned on. The involved children appeared pale and sluggish in the morning, even cold water losing its power to enliven them.

A careful inspection of the building gave the key to the situation. The theory of undetected leaks of illuminating gas as a source of intoxication could not be verified in this case; but it developed that the gases escaping from a "viciously defective" hot-air furnace were sufficient to cause the trouble. The separation between the fire-box and the hot-air ducts (on which the hygienic integrity of the outfit depends) was badly broken, and as a result the inhabitants of the house were bathed in an atmosphere of diluted flue gases. We are confident that this condition might be discovered in many other American homes. Flue gases contain, especially when the combustion is incomplete, considerable amounts of sulphurous oxid and carbon monoxid, both distinctly poisonous gases.

The symptoms in Schneider's cases pointed to the carbon monoxid as the probable chief offender. Sensations of oppression and other mental disturbances are said to be typical of acute carbon monoxid poisoning. Any textbook description of the toxicology of carbon monoxid will bring to mind the possibility of loss of psychic powers, the confused sensations and other features which suffice to explain the sense of oppression that persistently entered into the delusions of the inmates of the "haunted" house. The belief in walking spirits is easily nourished by persons in whose minds real noises would be likely to become exaggerated during the intoxication.

The sensations of apparitions induced by the breathing, during sleep, of a tainted atmosphere are of interest to the students of psychic manifestations. To the medical man Schneider has pointed out some patent hygienic lessons. The hot-air furnace, often praised for its ventilating effect—and with justice when properly operated and in perfect condition—may evidently become a distinct menace to health. May there not be cases of a milder order, which escape detection while still causing slight poisoning? Slight leaks of illuminating gas have often been suggested as a cause of headaches and anemias of obscure origin. Perhaps, as Schneider suggests, we should more often look to leaky furnaces and flue gases for similar effects.

1. Schneider, Franz, Jr.: An Investigation of a "Haunted" House, Science, May 9, 1913, p. 711.

THE CAUSE OF CHRONIC POLYURIA

The theories as to the cause of that form of chronic polyuria which often still bears the rather inappropriate title of diabetes insipidus are far from concordant. The distinction has been made between this disease and primary polydipsia in which the power of the kidneys to secrete a more concentrated urine is not lost, but the low specific gravity is due to the result of the inordinate thirst of the patient rather than any inherent defect of the kidney. In the idiopathic forms of the disease, however, we are not dealing in the first place with increased thirst or blood changes, but with an unquestionable disturbance in the secretory functions of kidneys so that one has in fact to do with a primary polyuria. It has been maintained, especially by E. Meyer, that this results from an incapacity of the kidneys to secrete a urine of normal concentration. The specific gravity in such cases is notably low, generally not exceeding from 1.001 to 1.005, with quantities of urine ranging up to a reported maximum of 43 liters (45½ quarts) in a single day.

If, as suggested above, the functional incapacity lies in an inability to produce a suitable concentration of the urine so that the kidney output shall approximate that seen in ordinary conditions of renal efficiency in health, the patient, in order to eliminate the excretory products circulating in the blood, has to imbibe larger quantities of water than does the normal individual. When this general explanation is put to the test we must expect that after increasing the renal work to be performed, as for example after ingestion of sodium chlorid, the concentration of the urine will remain unincreased at all events, the excretory needs of the organism being met on such occasions by a sufficient augmentation in the urinary volume to carry away the added burden of waste. This, in essence, has been Meyer's belief.

It has been admitted that some concentration of the urine can be brought about when the kidneys in these unique cases are subjected to the influence of certain drugs, notably diuretics and opium. Forschbach[1] has demonstrated, nevertheless, that it is possible to induce the same results even without the use of pharmacodynamic agencies. Granting the truth of this, it becomes apparent that the underlying cause of the polyuria is not due to an inability of the kidneys to concentrate the secretion, but rather to a pathologic condition in

1. Forschbach: Zur Frage des Konzentriervermögens der Niere beim Diabetes insipidus, Ztschr. f. klin. Med., 1913, lxxvii, 153.

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which an exaggerated secretion of water is the determining factor. The abnormality is thus to be sought in those kidney elements which are concerned with the secretion of water. Whatever the ultimate truth may be, the conception of the abnormality of chronic polyuria as something associated with the output of a single urinary component, water, with a presumable increased irritability of the cellular structures involved in its secretion alone, furnishes a simple hypothesis in the search for its etiologic factor.

THE BEDBUG

The alleged humor of which *Cimex lectularius* has been the subject should not obscure the serious rôle played by the bug in common with the fly, the mosquito, the flea and the louse as a conveyor of infection. Relapsing fever, bubonic plague, kala-azar, small-pox and typhoid fever have been transmitted by various species of the bedbug, and possibly the investigator might find here the explanation of otherwise inexplicable endemics in uncleanly neighborhoods. Epidemics of smallpox have been disseminated in cheap lodging-houses by this polecat among insects; and were it not for the frequent vaccinations compelled by health departments, such epidemics would very likely be more frequent than they now are.

Rucker[1] observes that in biting, the bug anchors itself to the skin with its pair of mandibles and then inserts its maxillae, which are shaped like gutters, and when placed together form a tube that is used to extract blood and to put saliva into the wound. Pathogenic bacteria may be conveyed in this way. The bedbug hides during the day and sometimes hibernates during the winter. When it lacks animal sustenance, it feeds on the juices of decayed wood or on the dust in floor cracks, and can go without food for a long time. It may continue its existence under adverse circumstances from season to season, in lumber camps, in summer houses, empty apartments and the like.

The housewife is greatly mortified by the creature's presence under her roof; but she is by no means always blameworthy. It may get into the traveler's trunk or satchel from an uncleanly hotel or sleeping-car or invade the home in the laundry or on the clothing; thus Manning[2] witnessed the migration of a bedbug across the aisle of a car from a sick man to the skirts of a party of women. Or it may migrate through walls from one house to another, sometimes in a continuous pilgrimage, especially when the dwellers of an infested house move away, thus cutting off the commissariat of the parasite. It may then escape through windows as well as walls, along water-pipes or gutters to new pastures. Thus the tidiest housewife may be victimized. Apart from ordinary dwellings, log cabins easily become infested; ships also entertain the bedbug in considerable degree. Poultry-houses, dove-cotes and the hiding-places of bats may easily become infested with the bedbug or nearly related species, and sparrows' and swallows' nests under eaves, which are often alive with the vermin, may be their portal of entry into houses. Ambitious medical graduates have been known to seek internships in hospitals noted rather for the vast amount of material they offer for study and experience than for their hygienic standards. Such fortunate interns should avoid sitting on the beds of hospital patients or letting their clothing come in contact with bedding during examinations; unfortunate transfers have been known to occur.

A thorough extermination of the bedbug would result also in the extermination of other dangerous insects infesting houses. The local application of boiling water and other substances[3] will kill a few bugs and drive others away, but serious efforts at extermination require fumigation. To be thorough, this should be done systematically by the municipality. Manning[4] has called attention to bedbug extermination as one of the measures to be employed in the prevention of all diseases whose virus is present in the blood of the host during the acute stage of the disease. Of all methods Manning says that there is none which would exceed in effectiveness the annual compulsory municipal fumigation of all habitations of man.

THE CELLULAR ELEMENTS IN MILK

The discovery of leukocytes along with bacteria, notably streptococci, in cow's milk has long been a matter of serious concern to American students of the various aspects of the milk question. The earlier careful examinations disclosed that these cells were present to a greater or less extent in most milks, but were less numerous in normal milk than in the milk of diseased animals. At one time it seemed imperative to take serious cognizance of the leukocytes, which were quite naturally identified with "pus cells." There is, of course, no intrinsic difference between these types of formed elements; and inasmuch as the occurrence of pus was associated with inflammatory processes, its appearance in the milk engendered the seemingly well-founded suspicion of diseased mammary glands as the source of the secretion examined. Not only was the idea of consuming pus as food repugnant to the average person, but in view of the indications of diseased udders which it inevitably conveyed there arose a demand to have an arbitrary number of cells to a certain quantity of milk fixed as a limit beyond which the milk was to be regarded as unfit for use. As a government official remarked, it was only a question to what extent the evil was to be endured.

1. Rucker, W. C.: The Bedbug, Pub. Health Rep., Nov. 15, 1912.
2. Manning, Jacolyn Van Vliet: Bedbug Agent of Transmission of Infantile Paralysis, New York Med. Times, April, 1912, cited by Manning in Bedbugs and Bubonic Plague, Med. Rec., July 27, 1912.
3. See Queries and Minor Notes Department, this issue.
4. Manning, Jacolyn Van Vliet: Bedbugs and Bubonic Plague, Med. Rec., July 27, 1912.

During the attempts to fix a standard limiting the number of cells in acceptable dairy milk, the extensive investigations of this product secured under the widest diversity of conditions brought out clearly the fact that leukocytes occur in milk even when the gland structure shows no evidence whatever of inflammation. Therefore it was no longer necessary to assume that because so-called pus cells were detected in market milk it must inevitably be contaminated with the mammary secretion from one or more cows suffering from garget or allied conditions. In sections of functioning normal mammary glands isolated cells are found to be numerous in the capillaries and in the connective-tissue spaces between the alveoli, from which they make their way between the gland cells and appear in the milk. Russell and Hoffmann[1] made a large number of counts from the milk of cows in which there was not the slightest clinical evidence or any history of udder disease; they obtained results as high as 1,800,000, while 33 per cent. gave counts higher than 500,000 per cubic centimeter; 83 per cent. of those with slight udder disease or a history of garget gave counts of 500,000 per cubic centimeter or over. It appears that the retention of milk in the gland ducts and alveoli for an unusual period causes a large increase in the number of cells, for such conditions are favorable to their migration.

An investigation on the nature of the cellular elements present in milk, conducted for the British Dairy Farmers' Association by competent observers[2] has corroborated some of the foregoing statements. Cells, sometimes in enormous numbers, were found present in all milk, whether from the cow, goat, ass or man. Considerable variations in number occurred without apparent cause; and the presence of the slighter forms of nonsuppurative mastitis did not seem to influence definitely the number of these cells. It is of considerable import that no forms resembling polymorphonuclear leukocytes were detected, though certain multinucleated cells, undoubtedly derived from one of the layers of the glandular tissues of the udder, might be mistaken for polymorphonuclear leukocytes.

In the hope of shedding further light on the nature and source of the cells found in milk the British investigators have studied the histologic appearance of the udder itself more carefully. Their examination has shown the extreme paucity of polymorphonuclear leukocytes in the interalveolar tissue also, and so far as can be seen their complete absence in the lumina of the alveoli. From a survey of the entire situation the conviction has been reached that the cellular elements found in milk, either normally or in ordinary catarrhal or interstitial nonsuppurative mastitis, are tissue cells, and that "pus cells," in the ordinary acceptance of the term, do not appear in milk under these conditions.

1. Russell and Hoffmann: Jour. Infect. Dis., 1907, Suppl. No. 3.
2. Hewlett, R. T.; Villar, S., and Revis, C.: The Nature of the Cellular Elements Present in Milk, Jour. Hyg., 1909, ix, 271; 1910, x, 56; 1911, xi, 97; 1913, xiii, 87.

Current Comment

HOW MUCH LOSS OF BLOOD IS COMPATIBLE WITH SURVIVAL IN THE HUMAN BEING?

This is a question which is frequently discussed. While it probably never can be solved with any degree of absolute accuracy, yet certain facts now at hand indicate an approximately correct answer, at least for a certain class of persons, namely, women at the time of childbirth. In post-partum hemorrhage the amount of blood lost naturally varies a great deal. It seems that a loss of 2 kg. (approximately 4 2/5 pounds avoirdupois) is not unusual, and cases are described in which the loss of from 2½ to 3 kg. (upward of 6 3/5 pounds avoirdupois) has been survived.[1] This is of course exceptional, but in most cases of excessive loss of blood from post-partum hemorrhage the loss is not accurately measured. Were that done, perhaps we should learn that survival of such great loss occurs oftener than now suspected. Here arises the further question, namely, How much blood has an adult, normal human being? The usual statement is, one thirteenth of the weight of the body. This is the result that Bischoff obtained from actual measurement of the blood in the bodies of two executed criminals. Other methods have given somewhat divergent results, usually considerably less. Behring's method, however, which consists in injecting a definite amount of tetanus antitoxin intravenously and then after a little while withdrawing a definite amount of blood and estimating the quantity of antitoxin in it, gave on calculation the total amount of blood as nearly one thirteenth of the body-weight. Assuming then that the blood is practically one thirteenth of the weight of the body, a person weighing, say, 130 pounds (about 60 kg.) has 10 pounds (about 4.6 kg.) of blood, and one weighing 156 pounds (about 70 kg.) has 12 pounds of blood (5.36 kg. approximately). Assuming, further, that the amount of blood is not materially different in the pregnant and nonpregnant woman, we reach the conclusion on the basis of the facts mentioned, that in post-partum hemorrhage the patient may survive a loss of about half of the total amount of the blood in the body. Whether or not this conclusion is applicable to other forms of acute loss of blood is not definitely determined, but it is probably not far out of the way.

HOUSING AND HEALTH

In much of the current discussion of housing and city-planning the need of a basis of observed fact is apparent. A recent analysis by Chalmers[2] of conditions in Glasgow is an important contribution to the difficult problem of the relation of house-room to death-rate. An examination of the age distribution of the population of Glasgow showed that a considerable proportion of the difference in the death-rate recorded for dwellings of various sizes could be ascribed to the large number of children in the smaller houses. The number of children under 5 years constituted 19 per cent. of the total population living in one-room houses, 14 per cent. in two-room, 7 per cent.

1. Gjestland: Norsk Mag. f. Lägevidensk., 1913, lxxiv, 593; abstract in THE JOURNAL, this issue, p. 1932.
2. Chalmers: Med. Officer, 1913, ix, 202.

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in three-room and only 4 per cent. in houses of four rooms and upward. Further analysis, however, showed that simple differences in age distribution would not explain altogether the differences in death-rate in houses of various sizes. Assuming a standard age and sex distribution, it was found that a population of 100,000 with the Glasgow death-rate would yield 2,024 deaths annually in one-room houses, 1,683 in two-room, 1,263 in three-room and 1,032 in houses of four or more rooms, while in institutions the deaths would number 3,649. With regard to the causes of death the problem becomes very complex. In infectious diseases, including pneumonia, the higher rate fell on the smaller houses. Diseases of the nervous system in adults, on the other hand, were apparently more prevalent among the inhabitants of the larger houses. Chalmers regards the evidence as showing that the children born in the smaller houses are from the start under a serious physical handicap which is related to some extent to the food-supply. This could be traced to the prevalence in this group of various forms of disease of the digestive organs. "In later life the influence of the birth surroundings did not wholly disappear, but these were obscured by the influences of adult life, which, as in the case of diseases of the nervous system, tended to become degenerative in type, and appeared more frequently among the occupants of houses of larger size." Whether or not these particular conclusions are found to be generally valid, it will be recognized that the careful scrutiny and statistical analysis on which they are based is the only method likely to lead to permanent results. In a word, it is not a simple task to determine the influence of housing on health. Comparison of death-rates without reference to age, sex, race or economic condition may be quite misleading.

WILL ARKANSAS STAND FOR THIS?

The following interesting item appeared in the Little Rock *Arkansas Gazette*, May 13, 1913:

Fourteen graduate students of the Eclectic Medical University of Kansas City arrived in Little Rock on a special Pullman yesterday to take examinations before the State Eclectic Medical Board of Arkansas and be admitted to the practice of medicine.

Graduates of the Kansas City school have to go to other states for examination because the Missouri State Board of Medical Examiners will not admit them to examinations. Thus arrangements were made this year for the eclectic students to be examined by the Arkansas board.

It should be stated that the medical school referred to has very little, if any, semblance to a "university." After repeated inspections the institution was rated low in Class C by the Council on Medical Education. Also for the last two or three years it has been reported as not in good standing by the Missouri State Board of Health and for that reason its graduates have been refused examination in Missouri for the license to practice. Reports received indicate also that this college is not recognized in twenty-two other states. Nevertheless, the college has apparently found a safe haven for its graduates in Arkansas, which, unfortunately, has parceled out to three separate boards the authority of examining into the qualifications of those who are to practice medicine. In this connection, the results of the examinations of graduates of the Eclectic Medical University by the Arkansas Eclectic Board during the last three years as compared with the results in other states during the same time are interesting. The following is based on the statistical data published in the last three state board numbers of THE JOURNAL:

Examined in	Examined by the Arkansas Eclectic Board			Examined by Other Licensing Boards		
	Passed	Failed	Per Cent. Failed	Passed	Failed	Per Cent. Failed
1910	4	0	0.	2	4	66.7
1911	11	0	0.	2	6	75.0
1912	13	0	0.	..	..	...
Totals..	28	0	0.	4	10	71.4

Note that of the twenty-eight graduates of the above-named college who were examined by the Arkansas Eclectic Board, every one passed, whereas of the fourteen graduates examined in other states in the same three years, ten, or 71.4 per cent., failed! Is this the "safeguard" Arkansas has established against incompetent and unqualified practitioners of medicine? Will Arkansas stand sponsor for the graduates of a low-grade medical college which in its own state and in twenty-two other states is not deemed worthy of recognition? Do not the people of Arkansas deserve as good doctors as the people of other states?

THE JOURNAL AN ENCYCLOPEDIA OF MEDICAL INFORMATION

In the Knocks and Boosts Department of this issue, Dr. Walter F. Hamilton makes some remarks which are so important as to deserve mention here for the benefit of other readers who possibly are not making the most of their annual investment in THE JOURNAL. In the first place, he keeps his copies of THE JOURNAL on file. He does not say whether he binds them permanently or temporarily or merely piles them on shelves. At any rate, he has them for reference. Knowing the vast number of topics covered week by week, and that practically all the live topics of the day are discussed in its columns, he refers to his index and hunts up what has been said by THE JOURNAL and its contributors on any particular subject that arises. The index is made for just this purpose: to preserve and to use in after years. Thousands of physicians use it regularly, and any physician who may not be making regular use of it is neglecting one of the most valuable features of THE JOURNAL.

THE OPIUM EVIL A NATIONAL RESPONSIBILITY

Since the opium exclusion act of 1906, the United States government, which initiated the international movement to regulate commerce in drugs, "has taken no further definite action for federal control of the opium and allied traffics of the United States."[1] Of the foreign

1. Report of the Secretary of State on anti-opium legislation, referred to Congress, April 21, 1913, by President Wilson.

nations cooperating in the antinarcotic movement, many have enacted drastic domestic laws on the matter. But here is still staged the spectacle of separate states with differing laws inadequate to the situation both in detail and in enforcement. The efforts are not to be undervalued of those states which have seen the drug peril in this country and have used the means within their power to control this evil; but at the conference soon to be resumed at The Hague, significance will lie not in our stringent individual state laws but in the quality of our federal legislation; not in sporadic local efforts but in laws expressing the attitude of the nation as a whole. Meantime "there are few if any subjects regarding which legislation is in a more chaotic condition than the laws designed to minimize the drug-habit evil."[2] It should not be forgotten that three years ago the number of drug addicts in this country was estimated at more than one million;[3] that 400,000 pounds of opium are imported into the United States and consumed yearly, and 150,000 ounces of cocain illegitimately used;[2] that drugged "soothing syrups," medicated "soft drinks," and habit-forming "treatments" galore still spell prosperity for their exploiters, and that almost daily are seen such reports as "cocain used by sons of prominent families," "boys use heroin," "heroin cough-tablets bought daily at confectionery store by school-girls of 11 and 13"; or yet again, "physicians sell cocain to drug-fiends," "doctor sells cocain to boys."[4] Such facts must stir every one to respond to President Wilson's special message of April 21, 1913:

> It will always be, I am confident, a subject of gratification to the nation, that this government, realizing the extent of the opium and allied evils, should have initiated the world-wide movement toward their abolition. At this vital period of the movement to fail to take the few final steps necessary definitely and successfully to conclude the work would be unthinkable, and I therefore trust that there may be no delay in the enactment of the desired legislation and the consequent mitigation if not the suppression of the vice which has caused such world-wide misery and degradation.

We have commented[5] on the admirable efforts made by the Chinese nation to free itself from the opium traffic. Surely a young and vigorous country like ours will not slothfully permit itself to be overcome by the evil which has been so manfully withstood by the ancient land of China, nor permit in its own legislation a weakness which might tempt China from the "unswerving sincerity" of its policy in recent years.

INTERN WORK REQUIRED FOR GRADUATION

Rush Medical College will require[1] all students entering for the summer quarter of 1914 and thereafter to register for a five-year medical course. The fifth year is to be spent by the student either in graduate work in one of the departments of the college or as an intern in an approved hospital under the constant supervision of the college faculty. The fifth-year course was established in 1905, but was made optional owing to the wording of the Illinois practice act which required that only graduates of medical schools could serve as interns in hospitals. The practice act has since been amended, thereby permitting the college to require the intern year prior to granting the degree. This makes three medical colleges which have definitely decided to require the fifth year of intern or other clinical work. In 1910[2] the University of Minnesota College of Medicine adopted the requirement for all students entering in the fall of 1911 and thereafter. A few weeks ago also[3] Leland Stanford Junior University Department of Medicine announced a similar requirement for all students entering in 1914 and thereafter. There is also one state, Pennsylvania, which after Jan. 1, 1914, will require that every candidate in order to be eligible to receive a license to practice in that state must have first obtained an internship, which, however, need not necessarily have been obtained prior to graduation, but must have been taken in a hospital approved by the Pennsylvania board. There is much to say in favor of the college requiring the internship prior to granting the degree. The chief advantage is the constant check which the college will or should have on the intern's work; this will be in marked contrast to the haphazard manner in which interns, in some instances at least, carry out their obligations to the hospitals. This new arrangement gives assurance of a better training for the intern, of more satisfactory intern service for the hospital, and of safer and more thorough care of the patients in the hospital. Altogether, this next great step in the advancement of medical education, which is apparently to be brought about in the near future, will provide for the public more thoroughly qualified and skilled practitioners of medicine.

MEDICAL RESEARCH AND MEDICAL EDUCATION

The announcement was made last week[1] that a million dollars had been given to develop medical research at the University of California. This generous gift will provide a research institute on the Pacific coast comparable with the Rockefeller Institute in New York City. It will differ from the Eastern institution, however, in that it will be closely connected with a medical school. This is as it should be. While medical research has no place in the undergraduate medical curriculum, its presence in the medical school is of the highest importance. It creates an atmosphere of investigation with which every medical student should become imbued. It is carried on by a group of workers who are also medical teachers and the best teachers are always those who are also actively engaged in medical research. Medical research is, in fact, the very soul of medical education; without it the medical school is likely to become a mere machine, teaching the discouraging facts regarding morbid processes, sickness and death without the inspiration of encouragement and hopefulness which comes from delving after new truths and the discovery of new means

2. Digest of Laws . . . Relating to Habit-Forming Drugs, Pub. Health Bull. 56, 1912.
3. Kebler, L. F.: Habit-Forming Drugs, Farmer's Bull. 393, Bureau of Chemistry, 1910.
4. Newspaper clippings, April, 1913.
5. China Suppressing the Opium Habit, editorial, THE JOURNAL A. M. A., Dec. 7, 1912, p. 2073.
1. Illinois News, this issue.

2. A Year as Intern in a Hospital, Current Comment, THE JOURNAL A. M. A., Oct. 1, 1910, p. 1206.
3. California News, THE JOURNAL A. M. A., May 10, 1913, p. 1467.
1. California News, THE JOURNAL A. M. A., June 7, 1913, page 1802.

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of alleviating disease and pain. In the medical school without research the highest ideal held by the student may often be the financial returns he may obtain from his practice. In the research school, on the contrary, the student, by the time he graduates, is led to realize that his study of medicine has just begun and also to realize how boundless are the possibilities for usefulness in the field of medicine. It is undoubtedly the latter school which turns out the best practitioners of medicine. It also turns out those who are better prepared to serve their communities in promoting improved sanitary measures whereby needless sickness and suffering are prevented. Our congratulations are extended to the people of California and of the Pacific coast on their recent good fortune.

THE MINNEAPOLIS SESSION

This issue of THE JOURNAL will reach its readers on the eve of the Minneapolis session. The American Medical Association this year holds its convention under most favorable circumstances, the University of Minnesota being hostess on her spacious campus. The arrangements for the meeting are completed and promise a pleasant and profitable time. The elaborate descriptions of these arrangements and of the city in which the meeting is to be held appeared in THE JOURNAL, May 10. As the members register they will be given copies of the official program, badges, invitations and complete schedules of all the events of the week. The report of the legislative proceedings of the meeting will begin in the issue of June 21 and will continue in following numbers. The publication of the scientific papers read before the various sections will commence in the first issue of July and their presentation will be pushed rapidly. The thousands who will attend the session (and doubtless many will be induced to come at the last minute by the convenient location) are but a small percentage of those who will think next week of the scenes being enacted on the campus of the University of Minnesota. There is every prospect of a meeting that will be noteworthy in pleasure and profit.

THE PICTURES OF THE OFFICERS

We take pleasure in presenting in this issue a portrait of the President-Elect, John A. Witherspoon of Nashville, Tenn., who will be installed in office, next Tuesday morning at Minneapolis, as President of the American Medical Association. We also present two groups of pictures of some of the section officers, one group of the chairmen and one of the secretaries. These two groups comprise most of the section officers at present serving whose pictures have not previously been given.

Advertismo Occulta—A Recent Disease.—Advertismo occulta is not yet described in text-books, though numerous sporadic examples have occurred within a year. Students of mental diseases would describe it as a form of "exhibitionism." It is an affection of the sense of justice. Recently a well-known surgeon came down with it. A review of the reported cases seems to show that this disease particularly affects surgeons. In brief, advertismo occulta is that form of advertising in the lay press or magazines, of which the subject (hero) is not supposed to be aware that he is being described.—B Joseph in *Vermont Med. Monthly.*

Medical News

ARKANSAS

Licenses Revoked.—The secretary of the State Medical Board of the Arkansas Medical Society announces that on May 14 the board in regular session revoked the licenses of Drs. F. A. Goodwin, Magnolia, and J. M. Byrd and A. J. Whitworth, Hot Springs, for publicly advertising special ability to cure chronic and incurable diseases.

Honor Dead Members.—At the annual meeting of the Arkansas Medical Society, Dr. J. L. Greene, Little Rock, reviewed the life of the late Dr. Edwin R. Dibrell, Little Rock. Dr. A. M. Hathcock, Harrison, paid a tribute to the memory of Dr. A. J. Vance, Harrison, and Dr. H. Moulton, Fort Smith, reviewed the lives of Drs. Fred A. Mickel, Van Buren, W. J. Pittman, Fort Smith, J. S. Sibley, Paris, A. J. Vance, Harrison, J. D. Bradley, Fort Smith, and O. M. Bourland, Van Buren, deceased members of the society.

Personal.—Dr. T. J. Stout, Brinkley, has resigned from the State Board of Health.——Dr. George S. Brown, Conway, has been elected health officer for Faulkner County.——Dr. Robinson Bosworth has resigned as superintendent of the State Tuberculosis Farm, Booneville, to resume practice in New York City.——Dr. S. P. Vaughter has been elected physician of the School for the Blind, Little Rock; Dr. J. G. Watkins, oculist and aurist for the Deaf Mute Institute, Little Rock, and Drs. Anderson Watkins and Sterling Bond have been appointed physicians to the latter institution.——Dr. William A. Brooksher has been elected chief of staff and Dr. J. G. Southard, secretary of the medical staff of Sparks Memorial Hospital, Fort Smith.——Dr. Olive Wilson, Paragould, has been appointed city health officer.

New Officers.—Annual meeting and banquet of the Alumni Association of the Medical Department of the University of Arkansas, held in Little Rock, May 21: Dr. T. M. Fly, Wampoo, reelected president and Dr. W. M. Wear, Etna, secretary.——Cleburne County Medical Society at Heber Springs, May 19: president, Dr. F. G. Richardson; secretary-treasurer, Dr. Horace E. Ruff, both of Heber Springs.——St. Francis County Medical Society at Forrest City, May 13: president, Dr. J. C. Reynolds, Colt; secretary-treasurer, Dr. D. A. Pelton.——Ashley County Medical Society at Hamburg: president, Dr. A. D. Knott, Wilmot; secretary-treasurer, Dr. A. E. Cone, Portland.——Fulton County Medical Society at Salem: president, Dr. C. W. Culp, Mammoth Springs; secretary-treasurer, Dr. L. F. Weathers, Salem.——Arkansas State Negro Medical Association, twentieth annual meeting, Hot Springs, May 29-30: president, Dr. J. G. Thornton, Little Rock; secretary, Dr. A. A. Womack, Little Rock.

ILLINOIS

Clara Barton Memorial.—The alumnae of Rockford College are endeavoring to secure a fund of $500,000 to put up the Clara Barton Science Building with a properly equipped laboratory, and to endow a Clara Barton chair of biology and bacteriology.

Personal.—Dr. Sidney D. Wilgus, superintendent of the Kankakee State Hospital, has resigned.——Dr. and Mrs. E. E. Gilder, Peoria, have returned from abroad.——Dr. William Hecker, Watseka, is returning from Europe.——Dr. William M. Freeman, Crystal Lake, was operated on for appendicitis in St. Joseph's Hospital, Elgin, June 2.——Dr. Thomas O. Felts, Bloomington, has been adjudged insane and committed to the Peoria State Hospital.——In the case of Drs. C. F. Brian, Bellmont, and R. L. Moter, Browns, defendants in a suit for alleged malpractice, the jury promptly brought in a verdict exonerating the defendants.

Chicago

Actors' Hospital.—Plans have been made for the erection of an actors' hospital to be erected at Hoyne Avenue and West Monroe Street, to cost $50,000. Dr. Max Thorek is to be at the head of the institution.

Health Department Plans for Summer.—At a conference of the health department and representatives of charity institutions, June 5, plans for summer relief work were formulated. These plans include the continuation of the work of last year, free medical attention, free ice to the poor and the welfare of children.

Clinical Year Compulsory.—Rush Medical College, which has for a number of years strongly recommended a fifth clinical

year as intern in a hospital, or its equivalent, has made this compulsory for the class entering in 1914. This fifth year is to be spent either in graduate work in one of the departments of the college or as an intern in an approved hospital under the constant supervision of the college faculty.

Medical Department of State University.—The bill taking over the College of Physicians and Surgeons by the University of Illinois was advanced to its third reading in the legislature, June 5, after the defeat of amendments offered by those opposing the project. The state is being asked to appropriate $200,000 for maintenance of the institution, this being a part of the $4,300,000 appropriation asked for the University of Illinois.

Personal.—Dr. Isaac Freemmel has been appointed assistant superintendent at the Elgin State Hospital.——Dr. A. T. Paulson was elected chief medical examiner of the Independent Order of Svithiod at the meeting of the Grand Lodge, May 30.——Dr. Morris L. Loevenson has returned after three years abroad.——Dr. J. A. Spiegel, an intern at the German Hospital, was severely injured May 31, while attempting to board a street car.

Sanatorium Directors Reorganize.—The board of directors of the Chicago Municipal Tuberculosis Sanatorium was recently reorganized by the election of Dr. Theodore B. Sachs as president and Dr. George B. Young as secretary. This reorganization was necessitated by the vacancy in the presidency caused by the resignation of Mr. Harlow N. Higinbotham and the recent appointment made by Mayor Harrison of Mr. W. A. Wieboldt as third member of the board.

Alumni and Faculty Smoker.—On June 6, a smoker and entertainment was given to the alumni and faculty of the College of Physicians and Surgeons by the Alumni Association. Addresses were made by President James of the University of Illinois and W. L. Abbott, president of the board of trustees. Dr. Edward E. Heintz, retiring president of the association, made a plea for financial support for the college, stating that "no medical school whose only support consists of fees paid by students can be maintained with modern students."

Alienists and Neurologists to Meet.—The Chicago Medical Society announces a meeting of alienists and neurologists to be held in Chicago, June 23-26, with headquarters at the Sherman House. The object of the meeting is to discuss mental diseases in their various phases. At the first meeting held in April, 1912, a resolution was offered dealing with the prevention of insanity, and the various forms of delinquency, and it is hoped that at this meeting, after a full discussion, a definite plan can be formulated and recommended to the several state legislatures. A varied program is offered in addition to this discussion, and on June 24 a dinner is to be given to the visiting alienists. Dr. Harold N. Moyer is chairman and Dr. W. T. Mefford, secretary of the committee on arrangements.

KENTUCKY

University Adopts Higher Preliminary Requirements.—Dr. W. E. Grant, dean of the University of Louisville Medical Department, reports that the executive committee of the faculty raised the entrance requirements to two years of collegiate work, beginning October, 1914.

New Officers.—Southwestern Kentucky Medical Association at Paducah, May 20-21: president, Dr. G. W. Payne, Bardwell; secretary, Dr. Herbert H. Hunt, Mayfield.——Kentucky State Association of Railway Surgeons at Louisville, May 14-15: president, Dr. D. Yandell Roberts, Louisville; president-elect, Dr. H. C. Jasper, Richmond; secretary, Dr. James B. Kinnaird, Lancaster.

Board Adopts Higher Requirements.—A report indicates that all applicants for license to practice medicine in 1918 and thereafter will be required to have completed in addition to a standard four-year high-school course, two years of work in a recognized college of liberal arts, prior to beginning their medical work. This will apply to all applicants matriculating for the session of 1914-15 and thereafter.

MARYLAND

Summer School at Johns Hopkins.—The Johns Hopkins summer school opened June 2, with fifty-one students. The course will last six weeks and special courses will be given for graduates. This is the first definite organization and follows in the footsteps of the academic department. The teachers in the course are Drs. John M. T. Finney, J. C. Bloodgood, Guy L. Hunner, J. P. Pratt, L. V. Hamman, C. G. Guthrie, C. G. Snyder, E. K. Marshall and L. G. Rowntree.

Personal.—Dr. A. C. Eckerdt, pathologist and assistant physician at the Springfield State Hospital, has resigned to accept a similar position with the Montana State Hospital, Warm Springs.——Dr. Joseph Clement Clark, Sykesville, has been reelected superintendent of the Springfield State Hospital.——Dr. Charles J. Carey, Sykesville, has accepted the superintendency of the new State Hospital for the Insane, Cambridge.——Drs. Claude B. Hammil and Ward D. Disbrow have been appointed members of the staff of the Springfield Hospital for the Insane.

Baltimore

Physicians to Aid Charity.—A new district board of the Federated Charities to be composed exclusively of physicians under the chairmanship of Dr. Arthur M. Shipley, was organized May 22.

Plans for General Hospital.—Plans for the improvement of the Maryland General Hospital include plans for the building of a surgery, a ward for colored patients and additional private wards. All of these are to be carried into completion by the Woman's Auxiliary of the hospital.

Alumni Association Meeting.—At the annual meeting of the Alumni Association of the Medical School of the University of Maryland, June 2, the following officers were elected: Dr. John I. Pennington, president; Drs. Robert P. Bay, H. D. Fry and J. T. King, vice-presidents; Dr. A. H. Carroll, recording secretary; Dr. J. Carroll Monmonier, Jr., Catonsville, assistant recording secretary; corresponding secretary, Dr. J. T. Smith; treasurer, Dr. John Houff; executive committee, Drs. G. Lane Taneyhill, Jr., C. R. Winterson, Hanover, B. Merrill Hopkinson, G. H. Hocking, Gorans, and E. T. Harle, Jr.

Personal.—Dr. L. K. Walker has been appointed chief resident physician in charge of the Maryland General Hospital.——Drs. Caroline B. Towles and John G. Jay have sailed for Europe.——Drs. John Ruhrah and John Howland have been appointed consultants for pediatrics at Bayview Hospital.——Dr. J. Morris Slemons has been appointed director of the new woman's clinic and professor of obstetrics and gynecology at the University of California, San Francisco.——Dr. A. H. Morse has been appointed associate professor of obstetrics and gynecology in the same institution.——Dr. William S. Thayer has been elected president of the Maryland Progressive Service.——Dr. Claude A. Stoncipher, charged with having given money to a woman for the purpose of having an illegal operation performed, was acquitted.——The damage suit for $50,000 against Dr. Archibald C. Harrison for alleged malpractice for treating a broken bone in the foot, was nolleprossed by the plaintiff.

MONTANA

Personal.—Dr. E. A. Ewart, Custer, was injured in a railroad wreck near Moorhead, Minn., May 1.——Dr. J. M. Scanland and family, Warm Springs, sailed from San Francisco, June 5, on a tour around the world.

Health Officers Elect.—At the annual meeting of the Montana Public Health Officers Association held in Great Falls, May 13, Dr. E. G. Balsam, Billings, was elected president, Dr. A. W. Deal, Butte, vice-president, and Dr. W. F. Cogswell, Livingston, secretary.

State Sanatorium Opened.—The State Tuberculosis Sanatorium, Galen, near Warm Springs, has now eleven patients and is fully prepared to care for all who may apply. Any patient who is not able to pay the expense of $15 per week, may apply to the county commissioners and will be admitted at an expense of $5 per week, half of this amount being defrayed by the county.

NEW JERSEY

Hospital Opened.—St. Mary's Hospital, Orange, was thrown open for public inspection May 30, 31, and June 1. After the installation of equipment, the building will be opened to receive patients.

New Officers.—Warren County Medical Society at Phillipsburg, May 6: president, Dr. Frank S. Gordon, Blairstown; secretary, Dr. William J. Burd, Belvidere.——Passaic County Medical Society at Paterson, May 13: president, Dr. A. F. McBride; secretary, Dr. C. B. Mitchell, both of Paterson.——Cape May County Medical Society at Cape May Courthouse: president, Dr. Clarence W. Way, Ocean City; secretary, Dr. Eugene Way, Dennisville.

NEW MEXICO

State Board Election.—At the annual meeting of the State Board of Health held in Santa Fe, Dr. L. G. Rice, Albuquerque,

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was elected president and Dr. W. E. Kaser, East Las Vegas, reelected secretary-treasurer. The other members of the board are Drs. James A. Massie, Santa Fe, W. T. Joyner, Roswell, G. V. Hackney, Socorro, W. R. Lovelace, Fort Sumner, and C. W. Gerber, Las Cruces.

Good Showing for Sanatorium.—The annual report of the Valmora Industrial Sanatorium, Watrous, for the year ended March 31, 1913, shows that sixty-eight patients were received during the year, sixty-seven patients were discharged, two died and thirty remained in the sanatorium April 1, 1913, one less than at the same time in the previous year. Of the discharged patients, fifteen were incipient cases; thirty-eight moderately advanced; nine far advanced and one was non-tubercular. The results of treatment in these cases were twenty-one apparently cured, twenty-one progress of disease arrested, fifteen improved, three not improved, one non-tubercular and two deaths. Fifty-six of the sixty-three gained in weight, five lost weight and two were not weighed. The average gain in weight was 11.63 pounds, the average loss 4.65 and the greatest individual gain was 40.25, and the average length of stay was one hundred and fifty-two days. During the year three new cottages, 14 by 14, were built and furnished, and a porch 10 by 70 was added to the hospital. The institution has been crowded for room and has been obliged to turn away several patients. The question of providing work for the patients presents the same difficulty as last year. The superintendent has commenced the manufacture of pottery, the clay being taken from a bed on the property of the sanatorium. He hopes that the product can be marketed at a price sufficient to pay ordinary wages to the patients who have no money and also to provide employment and occupation for the patients.

NEW YORK

Society Organized.—Physicians of Tonawanda and North Tonawanda met May 28 and organized the Twin City Academy of Medicine.

Schenectady Fights Rats.—The Schenectady health department has begun a campaign against rats. The method of extermination will be that used in San Francisco. A few rats will be inoculated with azoin and will be turned loose to spread the disease among other rodents.

Open-Air School for Rochester.—The Rochester Public Health Association and the Board of Education have resumed their open-air work on a tract of land at the foot of Cobbs Hill where thirty-five children of the open-air school have commenced their work. It is proposed to build a new structure on the ground, capable of accommodating one hundred pupils.

Personal.—Dr. LeRoy Charles Grau has been appointed resident physician at the New York State Hospital for Crippled and Deformed Children, West Haverstraw, N. Y.——Members of the Cortland County Medical Society tendered a banquet to Dr. H. T. Dana, Cortland, May 26, in celebration of his semi-centennial as a practitioner of the county.——Dr. T. C. Sawyer, Auburn, has succeeded Dr. William Brady, Elmira, as physician to the Auburn State Prison.——Dr. Myron D. Lipes, Cobleskill, who has been ill with septicemia, is under treatment at Mount Clemens, Mich.

Hospital News.—A large parcel of land at Hill Crest, Poughkeepsie, including a residence, has been offered by D. W. Wilbur and wife as a site for the new Benedictine Hospital. The land is valued at $75,000.——The new Ithaca City Hospital is practically completed and will be formally opened August 1.——Plans for the new Infants' Summer Hospital, Charlotte, have been completed and the contract for the construction has been let. The new buildings will not be completed until late in the fall and the present buildings will be used during the summer.——A friend of General William Verbeck has given a new hospital building for the Manlius school, at a cost of about $8,000.——An additional story is to be added to the Crouse-Irving Hospital, Syracuse, which will provide for twenty-five additional patients. It is expected that the addition will be ready for occupancy before the close of the summer.——The Oswego County Tuberculosis Hospital is nearly completed and will be formally opened July 1. Dr J. Roy Allen, Orwell, has been appointed superintendent of the institution.——Genesee Hospital, Syracuse, formerly a private institution, has been opened by the State Board of Charities as a general hospital.

Death-Rates Twenty-Eight Years Ago and Now.—The *Monthly Bulletin* of the New York State Health Department makes an interesting comparison of death-rates from the most common diseases of various periods during the past twenty-eight years. Childhood mortality has been a steadily decreasing percentage of the total. It has fallen from one-third of the deaths to one-fourth; from over 600 deaths per 100,000 population to 400. The actual mortality among children was hardly more in the last three years than it was twenty-five years ago and is considerably less than it was fifteen or twenty years ago. Typhoid fever was at its highest mortality midway of the periods and lowest in the most recent. Compared with the total mortality, the percentage of typhoid fever deaths was 1.4 until ten years ago when it began to fall and is now less than 1 per cent. of the total. In 1890 there were 27 deaths per 100,000 population while now there are 14, a fall of nearly one-half. Diphtheria has decreased steadily from 5 per cent. of the total mortality to 1 per cent.; from 100 deaths per 100,000 population to .22. The actual mortality now is only one-third what it was twenty-five years ago. Tuberculosis of the lungs has decreased steadily but to a less degree. In the first decade following 1885 about one-eighth of the total mortality was from this cause; in the last decade it has fallen to about 10 per cent. of the total. In the first decade there were 214 deaths from tuberculosis per 100,000 population and there are still communities in which that rate persists but the rate for the entire state is 160. This is a distinct saving of 54 per 100,000 of the entire population. There has been an actual increase of but 1,500 deaths during the last decade while the population has nearly doubled. The death-rates from cancer are not so encouraging. In 1912 there were reported in this state 8,234 deaths from cancer, an increase of 300 over 1911. The state death-rate from cancer was 85.9 per 100,000 of the population and to this cause was attributed 5.8 per cent. of all deaths. The urban rate was 83.6 and the rural rate was 92.9. One reason for this is that there are more people past middle life living in the country than in the cities. It has long been noted that the mortality from cancer was highest in the central counties of the state and the table shows a continuance of this. Twenty-five years ago there were only 2,000 deaths from cancer.

New York City

Class Reunion.—The class of '98 of Brooklyn Hospital Medical College held its fifteenth annual reunion, May 10, Dr. Anthony Bassler presiding.

New Clinic.—A new clinic for the treatment of special diseases has been opened at 98 Amity Street, Brooklyn, in connection with Long Island College Hospital.

New Straus Milk Stations.—Nathan Straus has opened nine more milk stations in different congested sections of the city. In addition to supplying infants, milk which has been properly pasteurized is sold at one cent a glass.

Hospital Opened.—At the opening of the new Beth-David Hospital, June 1, Dr. Abraham Jacobi, speaking for the New York Medical Society, stated his belief that it would be better to build twenty small hospitals at $500,000 each and approximately twenty blocks apart, than to spend $10,000,000 for a single institution. The Beth-David Hospital has accommodation at present for eighty patients.

Fresh-Air Work Begins.—The New York Association for Improving the Condition of the Poor opened Sea Breeze, its fresh-air home at Coney Island, on June 1, and the first party of convalescents has been taken there. As sickness among the poor has increased the demands made on the association for aid, the president, R. Fulton Cutting, has issued an appeal for funds for the extension of the fresh-air work.

Night and Day Camp for Tuberculosis Boat.—The tuberculosis committee of the Brooklyn Bureau of Charities has decided to extend the usefulness of the open-air tuberculosis hospital, maintained on board the *Rutherford* at the foot of Fulton Street. Beginning with June 1, in addition to its use during the day, the boat will be maintained for a night camp for men who are compelled to work while undergoing treatment at the local clinic.

Personal.—Dr. Rosalie Slaughter Morton sailed for South America, May 31.——Dr. Thomas A. McGoldrick, surgeon of the police department of Brooklyn, has recovered from appendicitis for which he recently had an operation.——Dr. and Mrs. Frederick Brown Humphreys sailed for Europe, June 6.——Columbia University has conferred the degree of doctor of science on Dr. William Crawford Gorgas, M. C., U. S. A., and Dr. Alexis Carrel. Dr. Carrel has sailed for Germany where he will make further studies and experiments on infantile paralysis.——Dr. Raymond Francis Charles Kieb,

assistant physician at Dannemora Hospital, has been appointed by the state superintendent of prisons superintendent of the Hospital for the Criminal Insane, Matteawan.

Acute Poliomyelitis in New York City During 1912.—During 1912, 504 cases were reported with 57 deaths, a case fatality of 11.1 per cent. and a case incidence of 9.8 per 100,000 of the population. In 1911, 358 cases and 9 deaths were reported to the Department of Health, a case fatality of 2.5 per cent. and an incidence of 7.2. The increase during 1912 occurred chiefly in Manhattan where the case incidence rose from 9.2 in 1911 to 14.4 per 100,000 in 1912. As compulsory notification did not become effective until Jan. 1, 1911, no cases beginning previous to that date are included. Owing to delays on the part of the physicians many reports are not made until months, and not infrequently one or two years, have elapsed. Therefore many of the cases of 1912 began in 1911.

New York Physicians May Practice in New Jersey.—Dr. Louis J. Ladinski, New York City, was summoned to attend a lawyer who shot himself in Newark, in 1911. The lawyer's estate was found to be insolvent and the trustee in bankruptcy sued Dr. Ladinski for a recovery on a mortgage of $2,000. The doctor responded with a counter claim for $2,500 for medical services. The trustee then asked to have the counter claim thrown out on the ground that while a New York physician might practice in New Jersey without subjecting himself to punishment, he could not legally collect pay for such services. The Supreme Court, however, decided that the New Jersey laws left entire freedom to physicians of other states to render occasional professional services in New Jersey and, incidentally, to recover for services so rendered.

Pension for Rockefeller Institute Members.—Pensions for its members and associate members have been provided by the governing boards of the Rockefeller Institute for Medical Research, and have been financially secured by the generosity of Mr. John D. Rockefeller, who has with this purpose in view increased the endowment of the institute by a gift of securities amounting to about $500,000. The pension rules which have been adopted provide three-quarters-pay pensions for members of the insitute retiring at the age of 65 after fifteen or more years of service, and pensions of from one-half to three-quarters of full pay, according to the length of service, for members and associate members who retire at 60 years of age. There is also a provision for total disability after ten years of service, and for widows and orphaned children, at one-half the scale on which members of the staff are pensioned.

Recommendations for Care of Defective Children.—At the last meeting of the New York Psychiatrical Society on May 14, the following recommendations for the proper care of feeble-minded and defective children were adopted: 1. All feeble-minded children who have reached school age should be registered as such through the agency of public schools, inasmuch as the school laws compel their attendance during school age. 2. The care of feeble-minded children thus registered should be reportable to a central bureau of the state. 3. All such feeble-minded children not teachable in the public schools in subnormal or ungraded classes should be segregated in colonies or institutions under the control or supervision of the state commission. 4. A state commission should be established, such commission to have supervision of all feeble-minded children and have direct charge of all those in state institutional care. Feeble-minded children who have left school or passed school age and are not in schools or colonies should be under supervision of the state commission. 5. Parents who are able to make proper provision for their feeble-minded children, may, on proper petition to the state commission, be permitted to care for them having due regard to the best welfare of such children and the safety of society. 6. The commission should receive power from the legislature to carry out the provisions of these recommendations. For the purpose of efficiently carrying out this scheme, it is strongly recommended that the governor appoint a committee of experts to investigate and prepare a practicable scheme for the carrying out of the suggestions recommended.

PENNSYLVANIA

New Hospital.—Physicians of the North Penn Clinical Association have organized a hospital at Sellersville, using the building of Dr. James P. Pursell.

New Officers.—Wayne County Medical Society at Farview Hospital for the Criminal Insane, May 22: president, Dr. R. W. Brady, Honesdale; secretary, Dr. F. A. Lobb, Hawley.

Portrait Given to Society.—Franklin County Medical Society at its quarterly meeting, May 20, was presented with an oil painting of Dr. William Grubb, a member of the society who died in Greencastle in 1885. Together with the portrait, a quaintly lettered metal sign from the door of Dr. Grubb's office was presented to the society. Dr. J. C. Gilland, Greencastle, made the presentation address.

Company to Pay for Epidemic.—In the case of Kohlmeyer against the Ohio Valley Water Company for damages resulting from the illness and death of a small child from typhoid, due to polluted drinking water, the court has decided, on the testimony of the attending physician supported by the opinion of experts as to the probable cause of death, in favor of the plaintiff, assessing damages of $1,500. The plaintiff claimed that in 1909, the supply of filtered water from the wells became scanty and direct connection was made by the defendant company with the river, and unfiltered water polluted with the sewage of Pittsburgh, was drawn through its mains, resulting in 2,400 cases of gastro-enteritis and about 100 of typhoid.

Philadelphia

Small-Pox on Battleship.—A case of small-pox was discovered on the battleship *Wisconsin* at League Island Navy Yard, May 29, and as the result the entire ship's company has been placed in quarantine.

Gift to Dr. Tyson.—At the stated meeting of the Northern Medical Association of Philadelphia, a loving-cup was presented to Dr. James Tyson in commemoration of his fiftieth year in the medical profession.

Medical College Reception.—The Medical College of Philadelphia gave a reception at the Bellevue-Stratford, May 30, to Thomas McCrae, M.D., and Philip B. Hank, Ph.D., recently elected professors in Jefferson Medical College.

Rejuvenation Day.—Philadelphia graduates of the University of Pennsylvania celebrated rejuvenation day at Grenloch Park, N. J., June 3. Dr. B. Franklin Stohl was secretary and Dr. Morris B. Miller, treasurer of the committee in charge.

To House Feeble-Minded.—A contract has been awarded by Director Neff of the Department of Health and Charities for the construction of two buildings and the laying of a sewage system on a portion of the farms owned by the city at Byberry. These structures will form part of the Home for Feeble-Minded Women and Children.

Portraits Presented.—At the annual commencement of nurses of the American Hospital for Diseases of the Stomach, a portrait of Dr. Lewis Brinton, founder of the institution, was presented to the hospital by Dr. E. J. Asnis.——A large painting of George H. Stewart, Jr., president of the American Oncologic Hospital, was presented by the board of trustees of the medical staff.

Commencements.—On June 7, Jefferson Medical College conferred degrees on a class of 126 at the eighty-eighth annual commencement. The honorary degree of LL.D. was conferred on Dr. Abraham Jacobi, emeritus professor of diseases of children, College of Physicians and Surgeons, Columbia University, and on Francis Preston Venable, president of the University of North Carolina.

Action Against Abuse of Vivisection.—Dr. Joshua E. Sweet, assistant professor of surgical research at the University of Pennsylvania, appeared, June 7, before Magistrate Hagerty for a hearing on charges, brought by members of the Women's Pennsylvania Society for the Prevention of Cruelty to Animals, that cruelties are practiced on animals under his charge at vivisection laboratories at the university.

Personal.—Dr. Ray Parker has been appointed on the staff of Dixmont Hospital.——Dr. John F. Moffet is reported to be seriously ill as the result of poisoning from bichlorid of mercury, accidentally self-administered.——Dr. C. N. Sturtevant, charged with causing the death of a child by running him down by an automobile, was exonerated by a jury, May 20.——Dr. Reuel Stewart recently celebrated his eighty-fourth birthday anniversary.

Musser Memorial Tablet.—A bronze mural tablet, 20 by 30 inches, designed by Dr. R. Tait McKenzie, was presented to the Hospital of the University of Pennsylvania. In the center of the tablet is a portrait of the late Dr. John H. Musser; it bears the inscription "Dr. John Herr Musser, 1856-1912, professor of clinical medicine in the University of Pennsylvania, 1898-1912. Hundreds call themselves your creatures who by you have been restored. Pericles, Act II, Scene 3."

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Alumni Meetings.—At the forty-first annual business meeting of the Jefferson Alumni Association, June 6, Dr. Charles S. Mangum, Chapel Hill, was elected president; Drs. Charles F. McBurney, Altoona, G. T. Matlack, Wilkes-Barre, J. Coles Brick and John W. West, Philadelphia, vice-presidents; Dr. Henry K. Gaskill, recording secretary; Dr. Elmer H. Funk, corresponding secretary; Dr. George P. Pilling, treasurer. The sum of $1,000 was pledged toward a fund of $10,000 for the endowment of a hospital room for the free treatment of poor graduates.——The officers of the Alumni Association of the Medico-Chirurgical College elected at the annual business meeting on June 5, are: president, Dr. A. C. Morgan; secretary and treasurer, Dr. W. J. McKinley.

Centenary of the Friends Asylum.—The Friends Asylum for the Insane at Summerdale celebrated its one hundredth anniversary, June 4. Among the speakers were Mayor Blankenburg, who commended the Quakers for opening the institution to all sects, and Dr. Frank Woodbury, secretary of the State Committee on Lunacy, who declared that 34 per cent. of all the cases treated at the institution during the last century have been cured. Out of the 4,421 patients admitted to the asylum since its establishment, 1,502 were completely restored in body and mind, while 503 partially recovered. The asylum property covers more than 350 acres and is part of an original grant by William Penn to a collarmaker in Oxford, England, who deeded it to a Friend in America.

Clinical Society Incorporated.—The Clinical Society of Philadelphia was granted a charter in common pleas court No. 5, May 30. The incorporators are: Drs. E. E. Montgomery, John B. Deaver, Samuel D. Risley, G. Oram Ring, C. J. Decker, George W. Warren, George C. Stout, F. Hurst Maier, E. L. Klopp, H. R. Loux, W. C. Hollopeter and Harvey A. Fenner. The purpose of the society is the establishment of a scientifically constructed and arranged building where lectures and demonstrations are held. It will be built in the neighborhood of Sixteenth and Walnut Streets, and is to be occupied exclusively by physicians, dentists and dealers in medical supplies and appliances. On the top floor club quarters will be provided, including a medical library. The building is to cost about $1,000,000 and the interior will be finished in the most approved hospital construction.

GENERAL

Swindler Arrested.—It is announced in a newspaper of Winslow, Ariz., that James Arthur Baker, whose operations were noted in THE JOURNAL, May 31, p. 1717, was arrested in Kansas City, Mo., escaped from the custody of the sheriff at Flagstaff, Ariz., and was rearrested in Albuquerque, May 26.

Exposition of Safety and Sanitation.—The preliminary notice of the International Exposition of Safety and Sanitation to be held in New York City, December 11-20, under the auspices of the American Museum of Safety, announces the following departments: accident prevention, industrial hygiene, city hygiene, home hygiene, social hygiene, and mutuality.

Officials of Charity and Correction to Meet.—The fourth annual convention of the American Association of Officials of Charity and Correction will be held in Springfield, Ill., June 24-26. The program will be carried out under the following heads: dependent children, insane and mentally defective; administration of institutions; home relief, and correctional problems.

Army Medical School Commencement.—At the annual commencement exercises of the Army Medical School in Washington, the secretary of war presented the diplomas and Dr. Charles W. Richardson, Washington, delivered the address. Brigadier-General George M. Sternberg, U. S. A. retired, presented the Sternberg medal to Lieutenant George N. Calender, an honor graduate, and Colonel John Van R. Hoff, U. S. A., retired, presented the Hoff medal to Lieutenant Benjamin J. Warriner, also an honor graduate.

Bequests and Donations.—The following bequests and donations have been announced:

Mount Sinai General Hospital, Montefiore Home, Home for Aged and Infirm Hebrews, New York Skin and Cancer Hospital, Blythedale Home for Tuberculous Children and the New York Hospital for the Ruptured and Crippled, each $1,000 by bequest of Charles Schoolhouse.

Mount Sinai Hospital and the Montefiore Home, New York City, $25,000 each by the will of Emanuel Heilner.

Jewish Hospital Association, Philadelphia, and Federation of Jewish Charities, each $5,000 by the will of William Kaufmann.

Good Samaritan Dispensary, New York City, $10,000, by the will of Samuel Riker.

Bower Charity Hospital, Boyertown, Pa., $25,000, by the will of Dr. Daniel B. Bower.

Cambridge (Md.) Hospital, donation of $35,000 by an anonymous benefactor.

Seaton Hospital for Consumptives, Society for the Relief of the Destitute Blind, St. Francis, St. Joseph's, and St. Mark's Hospital, New York City, each $6,000 by the will of Theodore Goetze.

Mount Sinai Hospital, Montefiore Home and Beth Israel Hospital, New York City, each $2,000 by the will of Albert Krower.

Montefiore Home, New York City, $5,000 by the will of Sampson Fried.

Montefiore Home, New York City, one-sixth of the residuary estate of Major Ivan Tailof, which will probably amount to more than $8,000.

Confederate Surgeons Elect Officers.—The sixteenth annual reunion of the Association of Surgeons of the Army and Navy of the Confederacy, was held in Chattanooga, May 28, and the following officers were elected: president, Dr. A. A. Lyon, Nashville; vice-presidents, Drs. G. M. Burdett, Lenoir City, Tenn., J. C. Hall, Anguilla, Miss., E. L. Deaderick, Johnson City, Tenn., and Carroll Kendrick, Kendrick, Miss.; secretary-treasurer, Dr. Stephen A. Roagan, Kansas City, Mo. The association selected Jacksonville, Fla., as the next place of meeting.

Alumni Meetings.—At the thirty-eighth annual meeting of the Alumni Association of the Medical Department of the University of Buffalo, May 28, the following officers were elected: president, Dr. Grover W. Wende, Buffalo; vice-presidents, Drs. George E. Brewer, New York City, George W. Goler, Rochester, N. Y., Francis W. McGuire, Buffalo, Cynthia E. W. Koser, Williamsport, Pa., and William Irving Thornton, Buffalo; secretary, Dr. Julius Richter, Buffalo; treasurer, Dr. William F. Jacobs, Buffalo (reelected); trustee, Dr. Henry C. Buswell, Buffalo, and executive committee, Drs. Lesser Kauffmann, Harry Mead and Edith R. Hatch.——The annual meeting and banquet of the Alumni Association of Albany (N. Y.) Medical College was held in Albany, May 27, and the following officers were elected: president, Dr. G. H. Janes, Westfield, Mass.; vice-presidents, Drs. George Walrath, Mariner Harbor, New York City, Thurman A. Hull, Troy, I. M. Slingerland, Fayetteville, John Cotter, Campbell Hall, and S. C. Clemans, Gloversville; recording secretary, Dr. J. Montgomery Mosher, Albany; corresponding secretary, Dr. James M. Vander Veer, Albany, and treasurer, Dr. Robert Babcock, Albany. At the graduation exercises a class of forty-nine received diplomas.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, May 31, 1913.

The Seventeenth International Congress of Medicine

Some further information may be given with regard to the forthcoming congress. The department of the museum dealing with obstetrics and gynecology will contain specimens illustrating the papers and discussions and also other material, either dealing with the subjects of cancer of the uterus and hemorrhage from the placental site or illustrating other investigations and observations of current interest. An exhibition of old obstetric instruments will be a special feature of this department of the museum. It will contain the whole of the collection now preserved at the Royal College of Surgeons of England, which is being catalogued by Mr. Alban H. G. Doran, and, it is hoped, many other rare old instruments from British and foreign sources.

In connection with the section of laryngology a department has been arranged in the General Pathological Museum to illustrate the following three groups of diseases: (1) neoplasms of the nose, accessory sinuses and nasopharynx (excluding mucous polypus); (2) the rarer forms of laryngeal tumors (including postericoid carcinoma); (3) diseases of the trachea and bronchi. There will be an exhibition of instruments to illustrate recent improvements in bronchoesophagoscopy, and the committee is prepared to arrange for a limited number of short demonstrations in the museum at stated hours.

Physician Has to Pay Damages for Visiting a Patient Without Her Consent

An unusual case has occurred in which damages were claimed from a medical man for "assault." A woman engaged in domestic service fell down stairs and injured herself. The insurance company in which her employer was a policy-holder sent a physician to examine her. She received no notice of this visit and was asleep in bed when he came. According to the evidence he roughly pushed past her mistress who opened the door, awoke and examined the woman, and tore off a plaster and strap which her own physician had applied, causing much pain. The physician gave a different account. He said that the woman's mistress invited him to

the house, and that he removed the plaster at the plaintiff's request. He had made no appointment to visit her; that was a common thing; 75 per cent. of such cases were done under the same terms. In reply to the judge's question, "You suggest that doctors visit patients without first obtaining their consent?" he replied: "It is done in these cases." To this the judge retorted that the defendant had set up a new idea as to the rights of physicians which, from his knowledge of the profession, he thought was a libel on them. Damages of $125 were awarded to the woman.

The National Insurance Act

The insurance committee for London has adopted by a large majority a resolution that it is undesirable that any physician should undertake the treatment of more than 2,000 insured persons. In consequence of the great increase of malingering it has been decided to appoint a medical referee who will examine cases referred to him by the committee. It is complained that medical certificates of inability to work are given much too easily and that in several societies the amount of sickness claims made on the funds greatly exceeds the estimate made by the government actuaries. In some societies the claims by women exceed the estimate by no less than 50 per cent., and by men by 20 per cent. It has been calculated that if only 1 per cent. of insured persons are malingerers it would cost the approved societies at least $250,000 per week.

Though many of the preliminary difficulties which arose in the inauguration of the national insurance act have been overcome, friction is developing in many ways. A curious situation has arisen in South Wales. In certain areas "medical aid societies" have been formed, which employ whole-time physicians at a salary, importing them into the district. Arrangements are made by the societies with the insurance committees to receive the annual sum provided for the medical attendance of the insured persons. These payments are pooled and the physicians are required by the society to attend not only the insured persons but also their families for the capitation fee of $1.50 provided for the former only. Naturally the scheme is opposed by the medical profession. There is no security that an insured person will receive medical benefit of the quality provided by the ordinary panel. The South Wales and Monmouthshire branch of the British Medical Association has passed a resolution protesting against the condition and calling on the staffs of the various hospitals to refuse medical recognition to physicians who accept such appointments.

Another curious situation has arisen in consequence of the refusal of many members of the British Medical Association to follow the order given by the representative body to decline to work the act. In the St. Pancras and Islington Division of London those members who took that course have received a letter informing them that at a meeting of the division it was resolved to take their conduct under consideration; and if it is found in the opinion of the division to be detrimental to the honor of the association, the question of their expulsion will be considered. They are asked to attend a meeting in order that they may put their case before the division.

Increase in the Number of Medical Students

It has been mentioned in a previous letter to THE JOURNAL that in consequence of the apprehensions caused by the insurance act the number of medical students who entered the profession last year declined. It is too soon to make a final estimate of the effect of the act on the profession, but it may be stated with confidence that an exaggerated view of its evils was put forward by those engaged in opposing it. This is borne out by the fact that the number of students commencing the medical curriculum has risen by 165, and now coincides with the average of the preceding five years.

The Population of Ireland

Recent statistics show that the decline of the population of Ireland during the last decade is the lowest on record. There has been a decrease both in the number of emigrants and in the death-rate. Poverty has also decreased. On the other hand, there has been an increase in insanity. The number of insane certified was 14,098 in 1861; it rose to 25,050 in 1901, and to 28,437 in 1911. A similar increase, it may be observed, has been noticed in England, where the social conditions are widely different. How far this increase is only apparent and due to the greater willingness of the relatives to send the insane into asylums, where the conditions of treatment are much improved, has always been a question.

A Color Problem in South Africa

The employment of natives in the Transvaal hospitals has become a serious question. Last year it was discussed at a meeting of representatives of the hospitals. The conference condemned the employment of male natives in white female wards even for cleaning purposes. In consequence male cleaners are being replaced by white or colored women. A second recommendation was that male natives should be nursed by male European orderlies. A few years ago this proposition would have received little support from the profession, but a change of opinion has taken place. One hospital for natives is endeavoring to replace white female nurses by trained native women. In others the European orderly is being introduced at great expense.

The Origin of Life

At the Royal Society of Arts, G. Sims Woodhead, the well-known pathologist, delivered an interesting address entitled "The Origin of Life, and What Do We Know of It?" He agreed with Schäfer, whose views were given in THE JOURNAL, Sept. 21, 1912, p. 953, that it was quite possible that some very low form of life might be created by the chemist. Woodhead held that the development of any living form that we can recognize under the microscope must have involved time almost illimitable, as we reckon it, and our puny and ephemeral experiments would necessarily fail. He believed that some day a great philosopher would rise among us whose outlook would be wide and who could found his philosophy on a broad scientific basis. Until then we are scarcely likely to make any great advance in our knowledge of the origin of life. The biologist will continue to study protoplasm, to place unfertilized eggs in artificial sea water, and he will find evidence of departure from the ordinary processes of development in that these eggs may become fertile. He will dissect embryos and will find that each half will develop into a complete organism. The chemist will go on building up substances indistinguishable from proteins and peptids, substances that hitherto have only been turned out from Nature's crucibles. The physicist will bombard us with electrons and ions, and the astronomer and the geologist will each contribute his mite to the treasury of knowledge. Let us accept any isolated fact that is fully demonstrated, and, when possible, let us fit it into the great scheme of Nature, by the magnitude of which we are overwhelmed, and, therefore but little astonished at the comparatively small part of it that has hitherto been filled in, but of which even the most agnostic must admit the wonderful order and law that rule throughout. "So marvelous and complete is it," concluded Woodhead, "that when I am informed that there is no personal God, I answer to myself that of this great scheme I have but one experience, and that is, that all the will, ruling power and intellect, the soul and spirit of which I have cognizance, are personal; and that if I am to argue from the less to the greater, I must accept it that there is a great Power above all, ruling, guiding and regulating. Personal, but all-pervading, to Whom, in however small a degree, we are allowed to liken ourselves, rebelling against Whose laws we are bound to suffer, directly or indirectly, but obeying with the freedom of sons we become more like that from which we come."

Appalling Increase of Cancer

That cancer has increased in recent years is perhaps a commonplace, but the extent of the increase is not generally realized. Under existing conditions one in seven women and one in eleven men die of cancer. In a pamphlet just issued the Society for the Prevention and Relief of Cancer has given a number of instructive statistics. In the decade 1851-1860 the annual average of deaths from cancer in England and Wales was 6,020. From 1881 to 1890 the average was 16,192; from 1901 to 1910, 30,914. This appalling rise in mortality has been continuous during these sixty years, and it is still going on. Allowing for increases of population, the deaths from cancer are now 5.9 per cent. of the total mortality from all causes. In 1851 the percentage was 1.4. During the thirty years, 1880-1910, the cancer death-rate for the United Kingdom had exactly doubled. Cancer is now overtaking consumption as a cause of death. Fifty years ago for every hundred deaths from consumption there were sixteen from cancer; to-day the percentage is six times as great. With regard to the increase of cancer, Sir Jonathan Hutchinson some years ago made the observation that it was due to improved hygienic conditions, for this enabled persons who otherwise would have died from infectious diseases and other

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causes to live to the age at which cancer is common. It is noteworthy that the increase is confined to carcinoma; sarcoma is not seriously on the increase.

The Decline of Tuberculosis

A controversy has been going on for some time as to the cause of the decline of tuberculosis. This is not due as sometimes is supposed to the introduction of sanatorium treatment, for even in the period before the discovery of the tubercle bacillus by Koch in 1882 the decline was more rapid than at present. Dr. Newsholme, principal medical officer of the local government board, has advanced the theory that the decline is due to the segregation of large numbers of cases, especially the "open" cases in poor-law and other institutions. A wholly different theory is advanced by Karl Pearson, Dr. Archdall Reid and others based on neo-Darwinian teaching. According to this view, every race is subject to a disease in inverse proportion to its former prevalence because the disease weeds out the susceptible from generation to generation until at length a stock which is immune is produced. This is illustrated by the well-known fatality of a mild disease like measles when introduced to a new population such as the South Sea Islanders. Probably an important cause is the improved hygiene due to an advancing civilization and above all to the improved dietary of the masses of the population, particularly in the epoch following the introduction of free trade into this country, which took place over half a century ago. The effect was greatly to cheapen the necessaries of life. Previously the working man had difficulty in getting even sufficient bread for his family, and a miserable picture has been drawn by writers of that day of the people in our large towns. The period immediately preceding the introduction of free trade was described as "the hungry forties."

PARIS LETTER

(From Our Regular Correspondent)

PARIS, May 23, 1913.

Eugenics and Diet

At the last session of the Société française d'eugénique the recent foundation of which I mentioned (THE JOURNAL, Jan. 18, 1913, p. 221), M. Frédéric Houssay, professor at the Faculté des Sciences de Paris, read an interesting paper on the influence of diet on heredity. From 1900 to 1907 he kept six generations of hens on an exclusive diet of raw fresh meat. The meat was obtained from animals ordinarily used for food and had no toxic character such as is present in horse-meat or tainted meat. At the very first the change of diet appeared very favorable. In time, however, increasing symptoms of intoxication and of organic fatigue were produced with arthritis deformans, always fatal when allowed to take its course, but cured in many cases by a return to a vegetarian diet. The especially interesting point is that this diet, at first favorable, but in the long run unfavorable to individuals, was still more so to the germs, and consequently to the race. The proportion of eggs which hatched, which was at first 100 per cent., fell to 27, then to 18, and then to 6 per cent. The toxicity of the diet thus manifested itself by preventing the eggs from hatching. Moreover, during the same year a laying hen became more and more intoxicated as her life went on. Accordingly the proportion of incubated eggs which were hatched continued to decrease from month to month, becoming none at all by the end of the season; moreover the chickens which were hatched had less vitality. Failure to reach maturity became more and more frequent and premature deaths became earlier and earlier. At the end of six generations, the race was thus entirely extinct.

On the basis of these experimental facts Houssay asked if habitual laziness and over-feeding has not been the cause of the rapid extinction of many human families. As soon as the human being earns his livelihood he begins to eat too much. The immense majority of civilized persons take too much food. It may be said that the ordinary diet is not perfectly adapted to any one. This is recognized toward the end of the age of maturity. People then select a more restricted diet, thus repairing the ravages previously produced, or preventing them from increasing. This late dietary reform is of no assistance to the race, for ordinarily the disadvantages of the ordinary mode of diet are not recognized until the age of reproduction is passed. Thus from generation to generation each individual begins his own life under less favorable conditions than his forefathers did, and families in easy circumstances finally become extinct, so that in large cities such as Paris, few families are prominent in the city for three generations. The élite of a country is thus constantly becoming extinct as soon as formed, and maintains itself only by constant accessions from the masses of the people, among whom restraint and sobriety are the rule. In short, Houssay believes that he is justified in concluding that the degeneration due to success and good fortune is as destructive as the degeneration due to poverty and should receive just as much attention from a eugenic point of view.

This paper aroused a warm discussion. Dr. Laumonier remarked that the experiments of Houssay confirmed what was maintained a long time ago by Professor E. Maurel of Toulouse, namely, that overfed individuals, whose principal diet was meat, become sterile at the end of three or four generations. Nevertheless, Laumonier feels that results drawn from an exclusive meat diet given to fowls which, although not exclusively granivorous, are less omnivorous than we, cannot justly be applied to men, and that the attempt is being made to draw from them a new argument, not merely against the abuse, but even against the use of meat for food. The arthritis, the degeneration and the sterility which result are caused much more by the excessive quantity of food than by its nature. Unless he has some hereditary taint, a strictly sober person who eats moderately of all kinds of foods never becomes arthritic. In fact, Laumonier has seen arthritis result from the abuse of Combe's diet and of purely vegetable foods. Houssay replied that he had also made some experiments on mammals. Mice fed exclusively on meat died at the end of three months at the outside. The omnivorous mammals adapted themselves much less easily than birds to an exclusive meat diet.

Dr. Weisgerber, subdirector of the Ecole d'anthropologie, objected that the English, who are great meat-eaters, do not appear less fecund than other people. Houssay replied that the English eat underdone meat, which is less toxic. Moreover, they are in the habit of absorbing much alkaline salt with their food. They are also much addicted to athletic exercise.

Dr. B. Roussy called attention to the great fecundity which still, in spite of the slight diminution of the birth-rate, characterizes the German people, who are no more distinguished than the French for their sobriety of diet and who even have the reputation of being in the main great eaters and heavy drinkers. Moreover, in going from Europe to Canada one finds a rich people composed in greater part of true French stock who have kept French customs and among whom, notwithstanding, the birth-rate is very high. Houssay replied that although the Germans are great eaters, ease and plenty were rare in Germany until a few years ago. Since wealth has become more general, the German birth-rate has decreased rapidly. As for Canada, it would be necessary to know exactly what is the ordinary diet of the Canadian provinces. Houssay does not deny the influence of voluntary restriction on the birth-rate. He asks, however, if this restriction does not in itself correspond to a diminution of energy, to a pusillanimity of character which is in close relation with organic modification due to an excessive meat diet.

Dr. Pinard, professor of clinical obstetrics at the Faculté de médecine de Paris, believes that Houssay's experiments are of great importance. He himself has often observed the coincidence of sterility with obesity and gouty heredity. Gouty families ordinarily become extinct through sterility in the third generation. He treated a very obese woman whose father was gouty and who had also no ovulation, by a reduced diet. After having lost 45 kg. (about 100 pounds avoirdupois) she became pregnant and the pregnancy was carried to term.

A New Method of Treating Hydrocele

At the last session of the Société de chirurgie, Dr. Morestin, surgeon of the hospitals of Paris, presented a patient in whom he had cured hydrocele by a new method. After puncture of the tunica vaginalis, which he emptied completely, he injected 2 or 3 c.c. of a one-third dilution of liquor formaldehydi. A considerable inflammatory reaction resulted. White edema was produced in the scrotum and prepuce but the patient suffered little. This process gives excellent results. The patient in question was operated on three years ago and the hydrocele has not recurred.

Damages of $400 Imposed on the Paris Medical School

I mentioned in a previous letter (THE JOURNAL, May 31, 1913, p. 1720) the little epidemic of typhoid fever caused by the fact that in the interior of the Faculté de médecine conduits of river water had been put into communication with conduits of spring water. Before these waters could be mixed it was necessary that the special seals placed on two con-

duits of river water by the municipal service should be broken. An order of the prefect of the Seine, Sept. 22, 1891, forbade the school to break these guarantee seals under penalty of 1,000 francs ($200) for each broken seal. The school has therefore been fined the amount specified.

The Use of Emetin in Abscess of Liver, in Dysentery and in Syphilis

I mentioned in a previous letter the success which Chauffard obtained by use of emetin in a case of dysenteric abscess of the liver opening into the bronchi (The Journal, March 22, 1913, p. 917). Since then Chauffard has reported to the Société médicale des hôpitaux de Paris another case of the same kind. The patient was a man of 40 who had never lived in the colonies, had never had any dysentery and who entered the hospital for a large abscess of the liver. A thoracotomy was done, giving access to a pus pocket which was incised and drained after evacuation of more than 1 liter (1 quart) of chocolate-colored pus. This pus was sterile on smears and culture, but histologic examination of a fragment of the wall of the abscess showed the presence of numerous amebas. After the operation the fever and the chills disappeared, but the drain left in the wound continued to discharge a large amount of hemorrhagic pus. A subcutaneous injection of 0.04 gm. of emetin hydrochlorid was then employed. The next day 0.08 gm. of the same drug was injected directly into the cavity of the abscess. On each of the two following days 0.04 gm. of emetin was subcutaneously injected. These injections provoked no local or general reaction, and were immediately followed by the disappearance of the secretion of pus and by the recovery of the patient.

Dr. Rouget likewise suppressed the secretion of a chronic and amebic abscess of the liver by a subcutaneous injection of emetin. Dr. Flandin reported to the society the case of a woman who had contracted amebic dysentery in Madagascar, and presented some time later an abscess of the liver which opened into the bronchi and necessitated an operation. Each day a large quantity of pus continued to issue, but after subcutaneous injections of emetin hydrochlorid in doses of 0.08 gm per day, all the complications disappeared. Treatment by emetin, therefore, seems to complement surgery in large amebic abscesses of the liver.

Dr. Dopter observed a patient with very serious amebic dysentery which had resisted all habitual means of treatment and which was completely cured by three injections of emetin hydrochlorid, the first dose 0.02 gm., the other two in doses of 0.04 gm. each.

The particularly interesting point is the good results which the same medicine has given in cases of syphilis. Dr. Milian a year ago treated a physician of the colonial troops who had been affected with syphilis and with amebic dysentery at the same time. He gave the patient four injections of 0.04 gm. each of salvarsan. Two days after the first injection the dysentery ceased completely. This efficacy of salvarsan against amebic dysentery made Milian suppose that treatment for dysentery might likewise be efficacious against syphilis. To verify this hypothesis he prescribed for a patient with an obstinate headache and syphilitic episcleritis, four intramuscular injections of 0.01 gm. of emetin. The headache and episcleritis disappeared in forty-eight hours. In a tabetic who had tibial periostoses and recurrences in spite of mercury and salvarsan, emetin cured these recurrences in forty-eight hours. The drug, however, was less efficacious against syphilitic manifestations which had not already been modified by a specific treatment.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, May 9, 1913.

Personal

Professor Westenhöffer, former assistant of Virchow, has been appointed assistant at the Berlin institute of pathology as successor of Professor Kayserling, who was called to Königsberg.

Having resigned his position as privat-docent, Professor Dührssen has severed his connection with the medical faculty.

Professor Stieda has been appointed temporary director of the surgical clinic at Halle, as successor of Professor von Bramann, deceased.

The new building of the first medical clinic of the Charité in Berlin was dedicated May 5. On the first floor of the central building is located the library of the clinic, containing about 10,000 volumes; the basis of this collection is formed by the library founded by Professor von Leyden, the former director of the clinic.

Von Behring's Method of Vaccination Against Diphtheria

As I said in my last letter, von Behring gives in the current issue of the *Deutsche medizinische Wochenschrift* a detailed report on his new prophylactic against diphtheria. The remedy is a mixture of very strong diphtheria toxin and antitoxin combined in such a proportion that the mixture shows only a slight, if any, surplus of the toxin when tested on guinea-pigs. Von Behring has previously reported a method of immunizing by a combination of toxin and antitoxin, and this was used at many places. The present method, which he regards as completely new, is a result of experiments on all available species of animals which showed that it is impossible to produce in a test-tube complete neutralization of the diphtheria toxin. The biologic laws which have so far been thoroughly investigated only in animal experiments seem to apply also to man. Von Behring presented evidence to prove the necessity of a method of prophylaxis more efficient than diphtheria antitoxin. The statistics show, for instance, that in Berlin alone the number of diphtheria cases has increased from 2,997 in 1906 to 11,578 in 1911, and it is apparently still increasing; further, it is known that for more or less justified reasons prophylactic injections are not generally used; finally, it is evident that all sanitary measures ordered by the police authorities for the suppression of diphtheria, such as closing of schools, disinfection of houses and persons, isolation of patients, convalescents and bacillus-carriers, have so far had barely noticeable, by no means brilliant, success, notwithstanding the extensive medical and other aids invoked and the burden which they impose on the affected families. From these and similar facts it is easily understood why von Behring is endeavoring with all his energy to introduce his method of vaccination for prophylaxis of human beings. He states that the remedy will not be given out generally except under stringent conditions for making thorough tests of it. Consequently he will first supply his remedy only to institutions which have medical attendants trained in such work and where there are proper arrangements for experiments on guinea-pigs to test its aseptic character and lack of toxicity. In addition to all this, a physician with experience in examination of the blood for antitoxin content must also be available. Each person to be treated must be examined beforehand, not only for his antitoxin index, but also to learn whether or not he is a bacilli carrier; if so, it is to be determined through continuous observation if the treatment will cause the bacilli to disappear. Periodical examinations of the blood must be made then according to a given method, so that the course of the production of antitoxin and the disappearance of toxin may be determined with sufficient accuracy after the immunizing treatment has been given. Further, a very careful record must be kept and duplicates of these records must be sent regularly to the Marburg institute; other precautions, besides, must be taken. In the meantime the most important thing is not the number of cases treated, but the accurate investigation of the conditions in each individual case, on which depend the production of antitoxin and thus the success of the immunization, the promptness of its appearance and its duration. (See Abstract 45 in The Journal, June 7, p. 1839.)

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, May 26, 1913.

Scholarships for Medical Students Entering the Army

The old complaint of insufficient numbers of the army medical corps is now more justified than ever before, and the actual unsatisfactory conditions are felt very keenly. The political crisis of the last half year has caused about 400,000 men to be called in for active service and the ratio of doctors to soldiers went down as low as 1:3,000, or even lower. At the same time the amount of sanitary work to be done (inspection of sanitary precautions, and small outbreaks of epidemics), was much more than ever before. The organization committee has now taken a further step in order to secure an adequate number of doctors for army purposes. A number of scholarships have been granted to students of medicine willing to take up a military career. Applicants for these scholarships have to pass an examination by a staff surgeon to prove their bodily ability. Then they will receive a yearly sum of 480 kronen ($120) until they have passed the first *Rigorosum* or severe examination (generally taken in the fifth semester). After that time they are entitled to a yearly sum of 720 kronen ($180) until they have passed the second *Rigorosum*. This must be taken in the tenth semester. Then they receive yearly

1,680 kronen ($270) until they are called for the final examination and take their degree as M.D. They have to serve, besides the three years which they are bound to stay with the army apart from the scholarship conditions, another four years. On entering the army they receive 6,000 kronen ($1,200) as repayment of the expenditure of their medical studies. It is also promised that within the next five years the conditions of promotion will be improved in such a way that military surgeons will reach after twenty-five years of service the rank of general staff surgeon, thus removing one of the chief reasons for the avoidance of the army by doctors. Also the conditions of old age or superannuation pensions will be shortly brought to a modern level, and the pension of a regimental surgeon will be increased in a liberal degree so as to induce many doctors to serve at least over their term until they reach this rank. If religious prejudices are done away with also, the desired effect will be obtained in a few years, but the last condition is the most difficult one in this country.

Sexual Diseases Among University Students and Upper Classmen of High Schools

The Austrian Society for the Fight against Sexual Diseases has conducted during the last few years an investigation into the prevalence of sexual diseases among different classes of the population, and one of the most startling facts brought into light was the frequent occurrence of this kind of illness among the adolescents of the "better" or wealthier classes. Thus among the students enrolled in the universities and allied high schools, no less than 25 per cent. were affected or rather infected, while even among the pupils of our gymnasiums and equivalent schools (attended by students from 16 to 19 or 20 years of age), 11 per cent. were infected, mostly with gonorrhea. This alone would give a forcible plea for the necessity of sexual hygienic instruction of students aged about 16, for in the overwhelming majority of the cases, the diseases had been contracted by sheer lack of knowledge of the risk encountered. The unwonted liberty offered to the hitherto closely watched pupil when he comes to large cities for university studies and has to live not in a school, but in a private house, is most dangerous in this respect. The society has already succeeded in inducing the reluctant authorities of the universities to have a printed warning handed over to every student matriculating in the institute. In this leaflet the importance of early and energetic treatment of all kinds of sexual diseases, and the necessity of putting away all shame in this respect, are clearly pointed out, and earnest advice is given to abstain from all sexual intercourse before marriage, this being the only safe way for remaining healthy and vigorous. Lately, by permission of the government, a dispensary for diseased students has been organized and the two dermatologic clinics of the Vienna University will alternate in this service.

The Problem of Euthanasia

The newspapers in this country are discussing now the problem of euthanasia, or the right of an individual to demand from his medical advisers active help to pass away from this world. The discussion was opened by a medical man, who himself was the victim of an incurable disease, and who proposed a regular act of parliament for this purpose. He worked his suggestion out in the following way: "Every person suffering from an incurable disease should be entitled to get euthanasia (help for dying). He should be obliged to apply for this purpose to the nearest court of justice. The court should order an examination of the patient by its forensic doctor, together with two competent specialists. If desired, other doctors may take part in the examination. This examination should take place not later than a week after the application has been tendered. If the examiners agree that the fatal outcome of the illness is much more to be expected than a cure, according to their scientific conviction, the patient should be helped to die. Whoever kills a patient or helps him to die painlessly, acting on the patient's express wish, and by permission of a court, would remain free from punishment. If the post-mortem examination shows that the disease was incurably fatal, he may also remain free from punishment. Killing a patient without his expressed and clearly manifested wish will be regarded as murder. Crippled or maimed persons should be considered in the same way as fatally ill persons." The resulting discussion is most significant for the difference of opinions. While the general public is not opposed to this idea, protests from medical quarters are very vehement and frequent. One of the most convincing opponents points out that medical knowledge is not yet advanced far enough to allow a sweeping statement as regards curability or fatality. It is too well known how patients with sarcoma, carcinoma, tuberculosis, neuralgia and the like suddenly improve and even become cured, in spite of the sentence of death passed on the patient by the medical adviser. On the other hand, medical art has enough means at hand to prevent sufferings to such patients. This kind of euthanasia is already being practiced widely enough, and it requires no law, while the before-mentioned "help to die" would always lead to the possibility of conscious or unconscious murder. The fear of death must not be confused with the right of dying. As regards the trend of thought of our juristic and political authorities, there is very little probability of this suggestion becoming law within a short time.

Marriages

THOMAS RAYMOND BEGGS, M.D., Dallas, Tex., to Miss Muriel Hillard Sonne of New York City, at Trudeau, N. Y., May 18.

GUSTAV SJOLANDER, M.D., Midland, Mich., to Miss Lydia E. Wade of Kansas City, Mo., at Midland, Mich., May 16.

FREDERICK BLUNT ALLEN, M.D., North Wales, Pa., to Miss Florence Corbin Newbold of Ridgefield, N. J., June 4.

THOMAS HARKINS INGRAM, M.D., Marianna, Ark., to Miss Josephine Le Master of Memphis, Tenn., June 11.

LOUIS J. LINDER, M.D., East St. Louis, Ill., to Miss Helen L. Bott of Brighton, Ill., at Alton, Ill., June 4.

WILLIAM LORD SMITH, M.D., to Mrs. Edith De Mauriac, both of Boston, at Grafton, Mass., May 31.

CLARENCE EDGERTON OWENS, M.D., to Miss Clara Ellen Forbes, both of Columbia, S. C., May 20.

RENE HECTOR HURVELLE, M.D., to Miss L. Elizabeth Featherstone, both of New York City, May 22.

EDGERTON LAFAYETTE CRISPIN, M.D., to Miss Angela Shipman, both of Ocean Park, Cal., May 27.

DAVID SWAN LINVILL, M.D., Columbia City, Mo., to Miss Emma Erdmann of Chicago, May 21.

WILLIAM KERWIN, M.D., to Miss Myre Stromberg, both of St. Louis, at Arcadia, Mo., June 1.

JAMES GARCIA, M.D., Idalia, Colo., to Miss Ethel Belle Manley of Tuttle, Colo., May 19.

WILLIAM CLEVELAND MYERS, M.D., to Miss Julia Collier, both of Dana, Ind., about May 14.

HARRY VILEY JOHNSON, M.D., to Miss Maria Payne Rucker, both of Georgetown, Ky., May 28.

T. ARTHUR JOHNSON, M.D., to Miss Ruth Winnifred Swanson, both of DeKalb, Ill., May 28.

JOHN CHESTER CARMER, M.D., to Miss Mary E. Townsend, both of New York City, June 4.

FRANCIS MARION SCHILLING, M.D., to Miss Lydia Lever, both of Philadelphia, June 4.

LEWIS HARLAN ATHON, M.D., to Miss Cleone Groat, both of Los Angeles, June 12.

HARRY PRESS, M.D., to Miss Mollie Fineblit, both of Manchester, N. H., May 25.

JACOB LUFTIG, M.D., to Miss Friedberg, both of Boston, March 23.

Deaths

HARRY A. TOMLINSON, M.D. University of Pennsylvania, Philadelphia, 1880; one of the most prominent alienists of the Northwest; died at his home in Willmar, Minn., May 30, from cerebral hemorrhage, aged 57. Before coming to Minnesota, Dr. Tomlinson had had charge of a private hospital for the treatment of inebriates in Frankford, Pa. He became a member of the staff for the State Hospital for the Insane at Saint Peter in 1891 and was made its superintendent two years later, and continued in that position until the establishment of the State Hospital for Inebriates, Willmar, of which he was superintendent from its organization until the time of his death. He was a member of the American Medical Association, the American Neurological Association, American Medico-Psychological Association and American Academy of Medicine, and was one time president of the National Asso-

ciation of Asylum Superintendents. He had made many contributions to the literature regarding the pathology of insanity and the treatment of the insane, and was an alienist of national reputation.

John Pitman, M.D. Washington University, St. Louis, 1864; a member of the American Medical Association; vice-president and one of the founders of the Bank of Kirkwood, Mo.; for twenty-eight years president of the Board of Education and for several years a member of the Kirkwood town board; local surgeon of the Missouri Pacific System; died in St. Luke's Hospital, St. Louis, May 28, from peritonitis, following an operation for appendicitis, aged 75.

Benjamin Franklin Barnes, M.D. University of Wooster, Cleveland, Ohio, 1895; a member of the American Medical Association; formerly president of the Licking County (Ohio) Medical Society; local surgeon of the Baltimore and Ohio System at Newark, Ohio, and a member of the Association of Baltimore and Ohio Railway Surgeons; died in Lakeside Hospital, Cleveland, May 28, four days after an operation for the removal of gallstones, aged 47.

John Richard Francis, M.D. University of Michigan, Ann Arbor, 1878; formerly chief surgeon of the Freedmen's Hospital, Washington, D. C.; at one time a member of the Board of Education of Washington, of the board of trustees of Howard University and of the executive staff of Freedmen's Hospital; one of the most prominent and wealthy colored physicians of Washington; died at his home, May 23, aged 57.

J. Boyd Risk, M.D. University of Pennsylvania, Philadelphia, 1879; a member of the American Medical Association; mayor of Summit, N. J., from 1908 to 1912; vice-president of the Summit Trust Company and a director of the First National Bank; died at his home, May 31, from a nervous disorder, aged 56.

Elmer Ellsworth Brown, M.D. Jefferson Medical College, 1897; a member of the Medical Society of the State of Pennsylvania; vice-president of Temple University and prominent in business circles in Philadelphia; a director of the Samaritan and Garretson hospitals; died at his home, May 23, aged 52.

Orson Wilson Tock, M.D. University of Michigan, Ann Arbor, 1870; a veteran of the Civil War and prisoner in Andersonville; for more than forty years a practitioner of Genesee County, Mich.; died at his home in Flushing, May 20, from heart disease, aged 70.

John Tyler Harrison, M.D. Barnes Medical College, St. Louis, 1897; of San Antonio; a member of the American Medical Association and a widely-known practitioner of San Antonio; died at the Wyeth Hospital in that city, May 25, a few days after an operation, aged 47.

James Alexis Post, M.D. University of Michigan, Ann Arbor, 1866; for twenty-five years general secretary of the Associated Charities of Detroit, Mich.; a surgeon of volunteers during the Civil War; died in a sanatorium in Los Angeles, March 13, aged 75.

Edward Fletcher Brooks, M.D. New York University, New York City, 1894; of Newburgh, N. Y.; while crossing the Erie Railroad tracks in his automobile, May 13, was struck by a train and received injuries from which he died a short time later.

Matthew John Leland, M.D. New York University, New York City, 1883; for many years professor of science and languages in Roman Catholic colleges in New York and Brooklyn; died at his home in Brooklyn, May 29.

George Payne Holman, M.D. College of Physicians and Surgeons, New York City, 1873; for forty years a practitioner of San Saba, Tex.; died in his apartments in Galveston, May 25, from heart disease, aged 65.

Shelly C. Moore, M.D. Hospital Medical College, Eclectic, Atlanta, Ga., 1911; of Luray, S. C.; who was shot by a negro desperado, April 30, died from his wounds in a hospital in Columbia, S. C., May 5, aged 24.

William Andrew Shuey, M.D. University of Virginia, Charlottesville, 1873; a member of the West Virginia State Medical Association and a Confederate veteran; died at his home in Piedmont, May 17, aged 77.

Milton Colt Belknap, M.D. Eclectic Medical College of the City of New York, 1868; a veteran of the Civil War; died at his home in Mayville, N. Y., May 22, aged 70.

Lewis Shepard, M.D. Miami Medical College, Cincinnati, 1868; formerly of Newport, Ind.; died at his home near Quaker, Ind., recently.

Eugene Frederick Hoyt, M.D. Hahnemann Medical College, Philadelphia, 1870; a specialist on diseases of the ear and throat, of New York City; died at the home of his daughter in Newark, N. J., May 26, from nephritis, aged 66.

James Clyde Snively, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1891; a member of the Washington County Board of Health; died at his home in Fruitdale, Ala., April 20, from uremia, aged 48.

Harry James Relihan, M.D. Northwestern University Medical School, Chicago, 1909; formerly of Sanborn, Iowa; died at his home in Chicago, May 31, from the effects of an overdose of morphin, aged 31.

Frank William Thompson, M.D. Yale University, New Haven, Conn., 1907; assistant surgeon, U. S. Navy; died at the U. S. Naval Hospital, Newport, R. I., May 30, from pneumonia, aged 29.

Daniel Richards, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1865; for nearly half a century a practitioner of Marion, N. Y.; died in Palmyra, N. Y., May 21, aged 80.

William E. Cooper, M.D. Medical College of Indiana, Indianapolis, 1894; of Sheridan, Ind.; died at his home, about May 23, after an operation for the removal of a tumor, aged 60.

Moiris Drossner, M.D. University of Greifswald, Germany, 1863; a specialist on diseases of the eye, ear and throat, of Jersey City, N. J.; died at his home May 25, aged 70.

Henry Clay Coley, M.D. Cooper Medical College, San Francisco, 1878; formerly of Stonyford and Chico, Cal.; died suddenly at Terra Buena, Cal., about April 25, aged 61.

James M. Grimes, M.D. Missouri Medical College, St. Louis, 1857; a member of the Illinois State Medical Society; died at his home in Camp Point, May 21, aged 77.

August John Freutel, M.D. Albany (N. Y.) Medical College, 1902; a member of the American Medical Association; died at his home in New York City, April 28, aged 36.

Emma J. Cornwall, M.D. Hahnemann Medical College, Chicago, 1884; died at the home of her daughter in Denison, Iowa, April 20, from senile debility, aged 75.

Patrick J. Gallagher, M.D. Georgetown University, Washington, D. C., 1891; died at his home in Washington, D. C., March 28, from cerebral hemorrhage, aged 55.

John W. Shockey, M.D. Physio-Medical Institute, Cincinnati, 1874; of Columbus, Ohio; died at the home of his daughter in that city, May 26, aged 66.

Winfield S. Jarvis, M.D. Kentucky University, Louisville, 1903; of Olive Hill, Ky.; was found dead near that place, May 22, from exposure, aged 36.

W. Wilroy Catching, M.D. Tulane University, New Orleans, 1901; died at his home in Georgetown, Miss., about May 7, from pneumonia, aged 37.

John DeWitt Nelson, M.D. College of Physicians and Surgeons, New York City, 1875; died at his home in New York City, May 21, aged 64.

R. W. Patterson, M.D. Northwestern University Medical School, 1902; died at his home in Menahga, Minn., May 11, from uremia, aged 38.

Henry Maclean Crawford, M.D. College of Physicians and Surgeons, New York City, 1896; died at his home in New York City, May 7.

William H. Boyd, M.D. Atlanta (Ga.) Medical College, 1869; died at his home in Rome, Ga., May 8, from senile debility, aged 85.

Samuel B. Baker, M.D. University of Buffalo, N. Y., 1899; died at his home in Rochester, N. Y., May 27, from heart disease, aged 43.

James E. Payne, M.D. Barnes Medical College, St. Louis, 1901, of Normangee, Tex.; died recently in a sanatorium in Houston, Tex.

Carl Goff Morse, M.D. Tufts Medical School, Boston, 1910; of Winthrop, Mass.; died in a hospital in Boston, April 3, aged 36.

Joseph Warren Dorset, M.D. University of Alabama, Mobile, 1903; of Wilmer, Ala.; died in a hospital in Mobile, May 9.

George L. Harbour, M.D. Louisville (Ky.) Medical College, 1893; of Vosburg, Miss.; died at his home, May 23, aged 43.

William R. Denbo, (license, Indiana, 1897); died at his home in Mauckport, April 21, aged 59.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

CLEAN ADVERTISING

A Layman's Criticism of Some Resolutions

The public is waking up to the evils of fraudulent medical advertising. Those interested in the advertising business know this, for men of no other class keep closer watch on the pulse of public opinion. The letters on the subject of fraud in medicine received daily by THE JOURNAL from laymen further emphasize the amount of public interest in this question. Physicians deserve credit for having instituted this fight against an insidious form of fraud—a fight that should have emanated from the public rather than from the profession. For years, the doctors of the country have tried to awaken the public mind to the menace of fraudulent "patent medicines" and irregular medical practice. Any apparently reactionary step taken, even inadvertently, by physicians in matters of this kind is most unfortunate. The following letter from Mr. E. J. Lee Rust of Birmingham, Ala., deserves a careful reading:

To the Editor:—To some of us poor ignorant people, who are not members of the grand and glorious medical profession, it would appear as though the various state medical associations—and in this case I refer especially to the Alabama Medical Association—did not give us credit for being able to think at all.

About a week ago the Birmingham *Ledger*, a daily paper, had an article on its front page under the following heading:

FORMAL PRESENTATION OF PHYSICIANS' ENDORSEMENT
LEDGER'S CLEAN COLUMNS

The resolutions adopted by the Medical Association of the State of Alabama, at the recent convention in Mobile, commending the Birmingham *Ledger* for its steadfast refusal to open its advertising columns to medical quacks, has been transmitted to the *Ledger* by Dr. L. G. Woodson, chairman of the committee delegated by the state organization to perform this act. The resolutions, which have gone on record in the minutes of the state association, read as follows:

"*Resolved*, That the Medical Association of the State of Alabama hereby places itself on record as giving unqualified endorsement to the policy adopted by the Birmingham *Ledger* in refusing to receive for insertion in its columns advertisements of quacks and all such misleading and fraudulent matter.

"*Second*. Be it further resolved, that this association hereby commends in the highest degree the policy of the Birmingham *Ledger* in refusing to insert advertisements of the kind mentioned above in its columns.

"The board heartily endorses the above resolutions and recommends that they be adopted by the association *ram laude*, and expresses the hope that other leading and influential journals of the state will follow the example thus set by the Birmingham *Ledger*.

"The board further recommends that a special committee of three, to be composed of Drs. Woodson, Ward and Bowman of Birmingham, be appointed to transmit in person to the proprietors of the *Ledger* a copy of this action of the association.

"Attest: W. H. SANDERS, M.D., State Health Officer."

The preceding refers to the fact that the *Ledger* has, for some time past, refused to accept the advertisements of certain doctors, especially those who advertise to cure the so-called private diseases of men and women. After reading the above article in the *Ledger* I glanced over its columns and, in the same issue with the above "boost" by the state medical association, I found and cut out advertisements of the following:

Beecham's Pills	Valdona Health Guide
Digestit	Danderine
Croxone	Dr. Caldwell's Syrup Pepsin
Dr. Dodson's Liver Tonic	Hot Springs Liver Buttons
Carswell's Liver-Ade	Home Receipt for Gray Hair
Chamberlain's Cough Remedy	Nadinola Cream
Mother's Friend	Fulton's Diabetic Compound
Wonderful Zemo	Mrs. Winslow's Soothing Syrup
Mayr's Wonderful Stomach Remedy	Abbot Bros. Rheumatic Remedy
	Resinol
Frontier Asthma Co.	Foley's Honey and Tar
Parisian Sage	Calocide Compound
Othine (Cures Freckles)	Wyeth's Sage and Sulphur Hair Remedy
Ayer's Hair Vigor	
Union Painless Dentists	Syrup of Figs
Gets-It	Hostetter's Stomach Bitters
Mercolized Wax	Swamp Root
Tutt's Pills	Carter's Little Liver Pills
Teethina	Cuticura Remedies for Eczema
Lydia E. Pinkham's Vegetable Compound	Wine of Cardui
	S. S. S.

I will say here, as I want to be accurate, that not all of the preceding were cut out of the issue mentioned, as, after I started the list I picked up to-day's paper and found some advertisements not in the former paper.

Here is a great medical association praising a paper because it will not publish the advertisements of certain doubtful doctors, and it goes right ahead, with a notice on the front page telling innocent people to buy whatever is published in the *Ledger*, and advises you to patronize our old friend Lydia E. Pinkham, Wine of Cardui, Union Painless Dentists, etc. Now, as a layman who is interested in all clean cures for existing evils, medical, social or political, I would like to have the opinion of THE JOURNAL of the American Medical Association on the foregoing glowing tribute to the Birmingham *Ledger*.

Mr. Rust's criticism is a just one. It is quite evident that the Birmingham *Ledger* does not refuse to receive for insertion "misleading and fraudulent matter." A newspaper that carries advertisements of a fraudulent "consumption cure," such as Eckman's Alterative, a dangerous "headache cure" such as Antikamnia, a "baby-killer" like Winslow's Soothing Syrup, a caustic poison like Mercolized Wax, a worthless "rupture cure" like Stuart's Plapao Pads and general all-around frauds like Kilmer's Swamp Root, Doan's Kidney Pills and Mayr's Stomach Remedy—and all of these appear in the *Ledger*—is hardly in a position to be praised for its clean advertising.

In view of these facts, the matter given above was submitted to Dr. W. H. Sanders, State Health Officer of Alabama, who replied:

"*To the Editor:*—Your letter of recent date, accompanied by a galley proof of matter you propose to insert in THE JOURNAL, has just been received. I am greatly obliged for the opportunity you have just afforded me of explaining the awkward position in which our State Medical Association seems to have involved itself. The resolutions of endorsement of the Birmingham *Ledger* were introduced by a member from Birmingham, and, taking it for granted that the resolutions embodied facts, the association endorsed them. The communication of your correspondent from Birmingham seems to show that the *Ledger* was not entitled to the high endorsement which it received from the association. I regret very much that the association accepted without investigation the resolutions as expressing facts. Should it turn out after thorough investigation that the association was misled in this matter I can assure you that it will on the earliest opportunity correct its mistake, which was inadvertent and not intentional. Should the matter which you submit appear in THE JOURNAL I hope you will insert this communication along with it."

RESPIRAZONE

"Can you tell me the composition of Respirazone, Tilden?" asks Dr. A. F. Barnes of Cambridge, Mass. No, we cannot. The company that manufactures it publishes an incomplete and therefore meaningless "formula." The stuff is said to be composed of: "Iodid and Bromid of Potassium, Helianthus Annuus [Sunflower], Ipecacuanha, Lobelia Inflata [Lobelia] and Leonurus Cardiaca [Motherwort]." Taken even at its face value, Respirazone is evidently a nostrum of the shotgun prescription type, containing, as is so often the case, some obsolete and worthless drugs. Our readers may remember a report of the Chemical Laboratory of the Association appearing in THE JOURNAL, June 19, 1909, p. 2008, on the Tilden Company's Hydrocyanate of Iron. There it was shown that the product was a mixture of Prussian blue and talc, and the investigation indicated that the firm was not inclined to disclose the composition of its remedies to the medical profession. A note on another of the company's products—Febrisol—which appeared in THE JOURNAL, June 29, 1912, p. 2043, called attention to the fact that the Tilden Company had been found guilty under the Food and Drugs Act of misbranding its product.

The time has come when physicians are thinking on this subject of scientific prescribing. They are glad to cooperate with firms which deal fairly, but they are unwilling to act as promoters of shotgun and other nostrums. The day is coming slowly but surely when the practitioner will not be cajoled into prescribing mixtures unless there is a real scientific reason for each part in the combination.

THE "KNOWN DOCTORS"

Imitators of the "United Doctors" Come to Grief at Ottumwa, Iowa*

The "Known Doctors," imitators of the methods of the "United Doctors," with offices at Ottumwa and Oskaloosa, Iowa, and Hastings, Neb., appear to have come to grief after a brief career. B. J. Chenoski, the promoter, according to press reports, recently pleaded guilty in the United States Court at Des Moines to using the United States mails to defraud, and sentence was deferred until the next term of court. James Ezra Meyers, one of Chenoski's hired "specialists," we are informed, was bound over to court for obtaining money under false pretenses, and is now under $500 bail.

The Known Doctors opened an office at Oskaloosa in October, 1912. The preliminary advertising campaign in Iowa was conducted under the name of the "United Doctors" but it was changed to "Known Doctors" just before the office was opened. Later the offices at Ottumwa and Hastings were opened. The advertising was almost an exact copy of that used by the United Doctors.

After a career of seven weeks, the office at Hastings was closed and Dr. H. C. Williams, formerly of Omaha, who was in the employ of Chenoski, was left to hold the sack. Chenoski abandoned the office and, according to the Hastings *Daily Republican*, left rent and other unpaid bills.

B. J. Chenoski, the promoter of the concern, is not a physician, but claims to be a chiropractor. At one time he was a pharmacist in one of the department stores in Chicago. Later he became manager of the "Chicago Men Specialist Company" at their branch office at Des Moines. His peculiar methods while manager of this company are said to have brought about his discharge. He then became the promoter of the Known Doctors. About May 20, 1913, he was arrested by the postoffice authorities for fraudulent use of the mails in connection with his medical business. According to the Ottumwa *Courier*, May 20, 1913, a bottle of tea was sent as a specimen of urine to Chenoski by a pretended patient who was in the employ of the government; and after an alleged examination of the specimen, a letter giving a diagnosis of diabetes was sent through the mail. On this he was arrested and when arraigned before Judge Smith McPherson in the Federal Court at Des Moines he pleaded guilty.

James Ezra Meyers was the "consulting physician" of the Known Doctors at Ottumwa. In the latter part of April he, with B. J. Chenoski, was arrested for obtaining money by false pretenses on the complaint of an aged patient, with cancer of the stomach, whom it is alleged they agreed to cure for $225, of which $175 was paid in cash and a receipt given. The cure was guaranteed and the balance of $50 was to be paid when the cure had been effected. The diagnosis of cancer was made by the physician who had previously attended the patient and was confirmed by others. The disease continued to advance, and, as already stated, the parties were arrested. Dr. Meyers, after a hearing before a justice of the peace, was bound over to the grand jury as stated. He graduated at the Illinois Medical College in 1910 and formerly practiced at Lansing, Iowa.

At Oskaloosa Dr. Theodore Milen seems to have been in charge of the office. Milen has been in the quack advertising business for many years. Like Ben W. Kinsey of the United Doctors he was a pupil and employee of "Phenomenal Kraus" when the latter invaded Des Moines, Iowa. In 1906 Milen was "physician-in-chief" of the Hot Springs Doctors at Sioux City, Iowa, and in 1909 he was associated with Dr. C. C. Aitken under the name of "Austro-American Doctors," with offices also in Sioux City. At that time charges were filed against him by the State Board of Health on account of fraudulent representation as to skill and ability, and gross unprofessional conduct. He left the state without appearing before the board and the charges became outlawed. He entered the employ of the Des Moines Specialists Company in 1912 and later became associated with Chenoski at Oskaloosa.

* For previous articles on this form of quackery see Propaganda Department, THE JOURNAL A. M. A., March 1 and June 7, 1913.

Correspondence

Lateral Incisions in the Treatment of Felons: A Warning

To the Editor:—In THE JOURNAL, May 10, 1913, p. 1416, is an interesting article by Dr. G. M. Dorrance on the treatment of felons by a coronal incision which separates the pulp of the finger from the subjacent bone. The free drainage afforded and the absence of any scar on the tactile area commend themselves.

In a personal experience with a felon nine years ago the advantage of a lateral incision appealed to me, and under my direction an incision was made precisely similar to that advocated by Dorrance except that only a lateral half of the flap was raised. The operation was entirely satisfactory so far as it provided drainage and relieved pain, but an annoying loss of epicritic perception, which evidently is permanent, daily warns me of the disadvantages of the incision. Although the incision was made well to the side, the tactile area anterior to the scar and also a narrow area posterior to the scar retain this unpleasant anesthesia and paresthesia, which interfere to some degree with finer tactile perception.

The division of sensory nerves, therefore, is an important objection to lateral incisions of the fingers. There is also an increased risk of wounding the digital arteries; but this, as a rule, is less serious than the permanent interference with tactile perception. It is urged, therefore, that the time-honored medial incision is the best incision for all deep suppurations involving the plantar surfaces of the fingers.

The mistakes usually made are that the incision is made too short, too late and too superficial. As these infections often involve the tendon sheaths and may involve the entire finger, the median incision has also the advantage of affording free drainage even though the infection involve more than the terminal phalanx. Although the incision be 2 or 3 inches in length, the resultant scar or deformity is usually slight and no sensory impairment remains. No general anesthesia is necessary, as complete anesthesia of the finger may be obtained by the deep injection of a few drops of a weak cocain or novocain solution in the anterolateral area at the base of the finger so as effectually to block the two digital nerves. A constricting band is desirable. The importance of rest in bed, elevation of the part, and ample wet drainage need not be emphasized.

The prophylaxis of digital infections, especially for physicians, has not been sufficiently appreciated. Rubber gloves should be used for vaginal examinations, dressings and postmortems. With the premonitory signs, usually a slight stinging or itching sensation in the area of infection, the part should be protected from irritation or bruising, and coated with the official yellow oxid of mercury ointment. Several of the mercurial ointments are remarkably efficient in preventing or aborting cutaneous infections.

W. WAYNE BABCOCK, M.D., Philadelphia.

Bone-Grafting without Periosteum

To the Editor:—In THE JOURNAL, May 17, 1913, p. 1533, Dr. H. G. Wetherill of Denver reports a successful case of bone-grafting without periosteum.

In a report of our experimental bone and periosteal transplanting at the Texas State Medical Association the early part of this month, Dr. C. P. Brown and I were able to show conclusively that the periosteum had nothing to do with regeneration of the bone, and advocated at that time not only removing the periosteum from the transplant before it was removed from the tibia, but also taking off the superficial layer of the bone just beneath the periosteum and roughening the transplant with the chisel, in order to increase the osteoblastic-producing surface.

In our last patient, operated on April 19, we not only removed the periosteum from the transplant, but also traumatized the surface formerly covered by periosteum. As the osteoblasts do not penetrate the periosteum, and as we have

found that we obtain a greater reproduction of new bone when the haversian canals are well opened up by roughening the bone with the chisel, it necessarily follows that we shall secure greater circumferential reproduction if no part of the transplant is covered by an impervious membrane.

I would suggest that there may be a small sequestrum thrown off from the transplant in Dr. Wetherill's case, which happened in a case of ours two years ago in which there was a slight latent infection. The sequestrum constituted about one-fourth of the original graft, the other three-fourths having healed in and reproduced a considerable amount of bone.

W. L. BROWN, M.D., El Paso, Tex.

Evidences of Arsenical Poisoning

To the Editor:—In an editorial on this subject in THE JOURNAL, May 31, 1913, p. 1710, it is stated that "by no ordinary measures, such as those to which criminals would be likely to resort, could arsenic be introduced into the body after death and be carried by the ordinary processes of diffusion to a point [the brain] so remote from the central portions of the body."

This is so at variance with established facts that I wish to direct your attention to the matter in the interest of medical jurisprudence.

It is true, as the editorial points out, that formerly the belief was entertained that if arsenic is found in the brain of a cadaver, the poison must have been introduced into the body before death. During the past thirty years, however, many experiments on the dead bodies of man and of the lower animals have abundantly established the fact that this view is entirely untenable. The record of these experiments is found in easily accessible literature.

Vaughan in 1883 took up the subject and became the pioneer investigator. With an ordinary syringe, he injected arsenic into a cadaver by the mouth and the rectum. The body was put aside for twenty-five days; then the brain was removed and submitted to chemical analysis; in a little more than a thousand grams of it he found 3.63 mg. of arsenic, calculated as the trioxid. In 1888 Witthaus continued the investigation. He first used three cadavers, and into two of them he injected arsenic through the mouth; in the third the arsenic was injected into the stomach and abdominal cavity. Fourteen days later the brains of all three were examined and arsenic was found in every one. In one case the vertex and the base were tested separately, and it was discovered that there was quite as much arsenic in the one part as in the other—showing the rapidity and completeness of the diffusion. In a fourth case Witthaus injected the arsenic directly into the stomach and at the end of five days he separated from the brain 8.28 mg. of arsenic calculated as the trioxid.

In the majority of the foregoing experiments only easily obtainable apparatus was used and the arsenic was injected into that part of the body (the mouth) to which a criminal could have ready access. It will also be seen that the amount of arsenic found in the brain after post-mortem injection was greater than that found by Ekeley (1.2 mg., calculated as As_2O_3 in 1,000 gm. of the brain) in the case reported by him (and referred to in the editorial), in which the arsenic was taken before death.

WALTER S. HAINES, M.D., Chicago.

The Insanitary Labor Camp

To the Editor:—In THE JOURNAL, May 10, 1913, p. 1464, is an editorial on this subject. While I concur for the most part in the deductions drawn, one statement is so obviously based on incomplete information that, in justice to our own and several other Western states, I call attention to it. The sentence is the following: "Because these camps are controlled by no laws, and because they are not supervised by any state department, they are a grave menace to the health of the laborers occupying them and the inhabitants of distant as well as adjacent towns."

Reports on industrial camps have been made to the Conference of State and Provincial Boards of Health for each of the past four years. The last report, made by myself and Dr. T. D. Tuttle of Montana, has not yet been published, but is practically ready for distribution. This report contains a digest of the laws and regulations controlling industrial camps, as nearly as we could determine them last year. So far as I know, practically all the western provinces of Canada and the states of Montana, Idaho, Utah, Louisiana and Washington have done something, at any rate, in attempting to control these camps through their state boards of health. Certain other states, notably Kansas and California, have made some investigations. Therefore it can scarcely be said that these camps are not supervised by *any* state department.

On page 628 of the *Public Health Reports* of March 28 will be found a copy of our rules and regulations relating to camps. I believe, although I have not the exact date at hand, that the rules of the Louisiana board have been in effect for several years. The Washington State Board of Health rules have been in effect since 1910. On page 35 of our last biennial report will be found a brief account of the work of this board on industrial camps, and also in the report of the sanitary inspector, page 112, is a more detailed reference to some camps inspected. In all, this department has investigated something over 500 industrial camps in the last three years and has had exceptionally good success in carrying out sanitary improvements. The investigations are far from what they should be because of lack of funds and field force, but we feel that in no other line of work have we accomplished greater results with the limited funds at our command. This subject is covered more fully in our last conference of state health officials' report, which will soon come from the press.

EUGENE R. KELLEY, M.D., Seattle, Wash.
Commissioner, Washington State Board of Health and Bureau of Vital Statistics.

[COMMENT.—It is shown by our correspondent that several states are exercising supervision over the sanitation of labor camps. The facts on which our editorial was based were drawn chiefly from conditions existing in New York. The second sentence, of course, should have read: "Because in many states these camps are not controlled by any laws and are not supervised by any state department . . ." The danger to health from labor camps is evidently becoming widely recognized.—ED.]

Suggestion for a Committee to Pass on New Medical Books

To the Editor:—May I suggest for the consideration of the American Medical Association at its coming meeting the desirability of appointing a committee for the purpose of passing on the intrinsic merits of medical publications placed on the market?

Publishing houses are financially interested in their output, and reviews are too often written hastily and sometimes perhaps with a personal bias; while no single reviewer associated with any periodical can be expected to possess such encyclopedic knowledge as is necessary in a field so varied and extensive. For these reasons thousands of physicians, and especially those far removed from publishing centers, are quite unable to decide what books may be most worthy of their attention.

An advisory or reviewing committee (like the Council on Pharmacy and Chemistry) of capable physicians, appointed by the Association because of their technical and practical knowledge of the various specialties and whose members may reside in different sections of the country, could without invidious distinction classify books in such way as to enable purchasers to make a more satisfactory selection than is now possible.

Many of our fraternity cannot afford to purchase largely, and it is often a great disappointment to discover, when too late, that a poor investment has resulted from an insufficient knowledge of, or extravagant claims made for, a much needed work.

The book review of such a committee should appear in the columns of THE JOURNAL, and coming from such authority would add greatly to its value for the busy practitioner or the young graduate who is bewildered by the many and too often misleading claims made for books. Approved works could be classified as are the medical colleges by the Council on Medical Education—A, B, C, etc.

G. WILDS LINN, M.D., Malvern, Pa.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

THE ASEPTIC THERMOMETER

In an editorial on "The Clinical Thermometer as a Vehicle of Infection" (THE JOURNAL, May 10, 1913, p. 1467), our readers were asked to suggest methods of making the thermometer aseptic. A number of replies have been received, which are summarized below.

DR. F. W. BREMER, Pittsburgh, Pa., has employed a thermometer case a little larger than the ordinary one, having an extra threaded collar to which a wick or gauze cover or "stocking" is attached. This cover is made thick and coarse enough to hold by its capillarity a quantity of 40 per cent. solution of formaldehyd which would keep the thermometer antiseptic at all times, both by contact and by its fumes. The thermometer, of course, has to be washed and dried both before and after use. At present, however, Dr. Bremer uses a roll of coarse paper in his thermometer case into which the thermometer fits tightly, the paper being soaked with formaldehyd solution.

DR. G. M. OLSON, Fargo, N. D., suggests that the ordinary hard-rubber thermometer case may be filled with alcohol, and if the top is screwed tight it will not leak and the case may be turned up so as to sterilize the entire thermometer. After use, the thermometer should, of course, always be washed in water.

DR. LOUIS J. SMITH, Percy, Ill., also has used the latter method for some time and believes it is ideal.

DR. H. M. FOLKES, Biloxi, Miss., for a number of years has carried with him a book of cigarette paper and a 2-dram vial of pure alcohol. When getting ready to take a patient's temperature, he takes a sheet of cigarette paper, saturates it with alcohol, and cleanses the thermometer just before use.

DR. E. T. BAKER, Moscow, Idaho, has designed, for the individual thermometer of the patient or the nurse, a metal receptacle, with a tight cap, containing a glass tube similar to a test-tube, which may contain any desired antiseptic. The whole outfit is to be fastened to the wall or some other convenient place in the hospital ward or sick-room.

DR. F. A. MCGREW, Delta, Colo., carries in his medicine case a small, flat, oblong metal box containing absorbent cotton and an ounce bottle filled with tincture of iodin diluted with an equal quantity of alcohol. After the thermometer has been used, some member of the family is requested to wash it in cold water; then a little pledget of cotton is moistened with the iodin solution and the thermometer is thoroughly washed with it. It is then put in the case without removing the excess of solution until the time of using the thermometer again.

DR. JOHN L. DRYER, Santa Ana, Cal., cleans the thermometer after use and then dips it into a 40 per cent. solution of formaldehyd, after which it is returned to the case and the cover tightly screwed down. Another plan is to wrap a thin film of absorbent cotton about the thermometer and dip it in 98 per cent. alcohol, returning it to the case as above.

DR. SAMUEL KENNEDY, Shelbyville, Ind., says that accurate and tested thermometers can be procured for $3.50 per dozen or 29 cents each, and that it is not necessary to buy more expensive instruments. He keeps a large number of thermometers and carries a number of them with him on his rounds, using a clean thermometer for each patient. On returning to the office the thermometers are carefully washed with soap and water, rinsed in cold water and then allowed to stand in alcohol for about an hour. They are then returned to their cases, which are sterilized by boiling, to be used again the next day.

DR. HENRY B. HEMENWAY, Evanston, Ill., calls attention to a thin celluloid envelope or cover, which is supplied by the instrument dealers, into which the thermometer is slipped before being placed in the patient's mouth. This does not interfere with the correct registration of the temperature. The envelopes are cheap and a new one, of course, is used for each patient, although one may be used a number of times for the same patient.

DR. EDWARD J. BROWN of Minneapolis cuts a strip of blotting-paper ¾ inch wide and inserts it in the metal thermometer case. The thermometer, after use and washing, is dipped in compound cresol solution and placed in the case. The blotting-paper soon becomes saturated and causes continuous disinfection of the thermometer.

DR. FRANK R. HART, Santa Cruz, Cal., has devised a thermometer case made of hard rubber, consisting of an inner and outer tube. The inner tube is so made as to hold any ordinary-sized clinical thermometer. It screws into the outer case. The walls of the inner tube are punctured with many small holes through which the fluid antiseptic, contained in the outer case, penetrates by pressure and by capillary attraction, the holes being extremely small. Any desired antiseptic may be used and the thermometer is constantly moistened with the solution.

RATIO OF THE SEXES AT BIRTH

To the Editor:—1. What are the latest figures as to the ratio of the sexes at birth? I am especially interested in the incidence of the sexes in England and the United States, and also in other countries if statistics are available.

2. What evidence is there that the ratio changes after wars resulting in the deaths of many males, and also following famines or seasons of great plenty, etc.?

C. E. BENNETT, M.D., Aneta, N. Dak.

ANSWER.—1. This matter was discussed in THE JOURNAL, Aug. 15, 1908, p. 616. As a general statement, the average is 1,056 males to 1,000 females. Statistics of births have frequently been given in the Berlin and other foreign letters, and by consulting them recent statements in regard to the relation of the sexes may be obtained. The following, also, may be consulted:

Vigor and Yule: The Sex Ratios of Births in the Registration Districts of England and Wales, 1881-1890, *Jour. Roy. Statistical Soc., London*, 1906, xlix, 576.

Proportion of the Sexes in the United States, U. S. Census Bureau, Bull. 14, 1904.

Nichols, J. P.: Numerical Proportions of the Sexes at Birth, *Mem. Am. Anthropol. Assn.*, i, Part 4.

Jones, H. R.: Industrial Employment of Married Women; Its Influence on Birth-Rate and Sex Ratio at Birth, *Lancet*, London, Aug. 10, 1912.

2. There seems to be some evidence in support of the statement that the proportion of the sexes varies with the condition of nutrition. The consensus of opinion, however, is that these conditions cause no alteration in the proportion of the sexes at birth. Some interesting statistics on this subject may be found in the following:

Marshall, F. H. A.: Physiology of Reproduction, London and New York, 1910, p. 648.

Newcomb, Simon: A Statistical Enquiry into the Probability of Causes of the Production of Sex in Human Offspring, Carnegie Institute, Washington, 1904, p. 27.

Von Mayr: Die Gesetzmässigkeit im Gesellschaftsleben.

Mayo-Smith, Richmond: Statistics and Sociology, New York, 1895, p. 73.

DESTRUCTION OF BEDBUGS AND COCKROACHES

To the Editor:—Please give me methods for the destruction of bedbugs and cockroaches, including formulas for preparations which may be applied to the beds and other hiding-places of these insects.

F. W.

ANSWER.—The destruction of bedbugs by fumigation with hydrocyanic acid gas is effective, but great caution must be observed. This method is not suitable for use by others than experts. One room at a time may conveniently be fumigated by sulphur candles, 2 pounds to the thousand cubic feet of airspace; the room should be shut tight and the sulphur burned in a coal-hod placed in a pan of water. Fumigation is required to kill all the bugs, as they are in the habit of concealing themselves in cracks behind wainscoting, under loose wall-paper, and in other places.

Brass or iron beds can be rid of bugs by the use of fire. The bed is removed to a concrete floor or out of doors, alcohol poured into all the crevices and immediately ignited. A burning newspaper may be passed under the springs. Rubbish, old

wooden beds, old picture frames, outhouses and chicken-coops which have become infested should be burned.

For use on wooden bedsteads and available crevices one of the best applications is hot water. The most practical way is to make liberal applications of benzin or kerosene, either used alone or made up according to the following formula:

> Nitrobenzene (oil of mirbane)—1 dram.
> Oil of turpentine—7 drams.
> Benzin, add enough to make 1 pint.

A solution of corrosive sublimate is another agent for the destruction of these insects. One of the most convenient methods for applying liquids to the crevices in which bedbugs hide is by the use of a wash-bottle with pointed tip. A rubber atomizer bulb can be attached to the mouth-tube and a continuous stream of liquid can be directed into the crevices.

The bedbug is also discussed in an editorial in this issue.

While cockroaches are not known to have any considerable share in the conveyance of diseases, it is desirable to get rid of them. The following directions are given in the *Pennsylvania Health Bulletin*, February, 1912:

"It is difficult to get rid of this pest. They have few natural enemies, an ichneumon fly and the tree-frog being the only ones known. They readily detect poisoned foods, avoiding arsenic and other common poisons. The smoke of pyrethrum powder will paralyze but not kill them. Flowers of sulphur dusted along the baseboards repels them." The bulletin also recommends phosphorus paste and gives directions for making it. Phosphorus paste is an unsafe preparation for any but an expert to make. It is better to purchase it at a drug-store. The fumes of carbon bisulphid in the proportion of 1 pound to 1,000 cubic feet of air-space (if the room is sealed) will destroy every roach. As this is an explosive in the presence of fire, great precaution is necessary. It is also poisonous to human beings and the lower animals and has to be used very carefully.

A food, prepared by taking 1 part of plaster of Paris and 3 or 4 parts of flour in one saucer with plenty of water in another saucer, *bridged for easy access*, makes a simple remedy. The insects readily eat the mixture and drink freely. The plaster sets and clogs the intestines. The dead bodies disappear, in all probability being eaten by the survivors. Finally, ingenious traps have been contrived, the simplest of which is the use of a quart fruit-jar. The jar is partially filled with stale beer and inclined so that it is easy of access but prevents the roach from escaping. A rough stick leaned against the opening serves as a gang-plank. Once in the jar the insects perish or are easily destroyed.

THE BRITISH MEDICAL PRACTICE ACT

To the Editor:—Please tell me the origin of the British Medical Practice Act, its workings and present status.

CHARLES P. FRISCHBIER, M.D., Brooklyn.

ANSWER.—The present British Medical Practice Act dates from 1858, in which year Parliament enacted a law providing a uniform standard of registration for physicians and surgeons. Previous to that time a large number of organizations had held the right to examine and license practitioners of various kinds. This right was in some cases derived from an act of Parliament, in others from a special charter direct from the crown, and in other cases was one of the ancient privileges possessed by certain colleges and organizations. In some cases the right to examine and license practitioners and to charge a fee therefor is about the only privilege remaining, and the organizations interested vigorously opposed any effort to deprive them of this right. The act of 1858 was passed after long deliberation and much discussion in medical journals, popular reviews and newspapers. The preamble of the act not only sets forth its object, but clearly shows the difference between English and American legislation for regulation of the practice of medicine. The preamble reads, "Whereas it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners," etc. In other words, the British Medical Practice Act is strictly definitive and not in any sense restrictive. It does not prohibit the practice of medicine and surgery but merely defines who are qualified and forbids any person to claim to be qualified when he is not. The enforcement of the act is placed in the hands of a general council, consisting of one person chosen by each of the following bodies: Royal College of Physicians; Royal College of Surgeons of England; universities of Oxford, Cambridge, Durham and London; College of Physicians of Edinburgh; College of Surgeons of Edinburgh; Faculty of Physicians and Surgeons of Glasgow; University of Edinburgh and two universities of Aberdeen; University of Glasgow; University of St. Andrew's; King's and Queen's College of Physicians in Ireland; Royal College of Surgeons in Ireland; Apothecaries Society of London; Apothecaries Hall of Ireland; University of Dublin; Queen's University in Ireland, and six persons appointed by the crown, four from England, one from Scotland and one from Ireland.

It will be noted that this council with the exception of the six persons appointed by the crown is an educational body, representing the various colleges, universities and professional organizations. It is authorized to examine and license persons to practice medicine and surgery. Various amendments have been adopted. In 1886 an amendment which was practically a new law was enacted.

The practical workings of this law are to permit any person to treat the sick in any way that he sees fit, without any examination or license, provided he does not represent himself to be that which he is not, namely, a legally qualified practitioner under the British law. Only licensed practitioners are eligible to appointment to government medical positions or as health officers, coroners' physicians, etc., or are recognized as entitled to sign birth or death certificates or legal documents requiring a physician's signature.

The British method of regulating the practice of medicine has many advantages and is worthy of careful study.

GIRARD TREATMENT FOR SEASICKNESS

To the Editor:—What is the Girard treatment for seasickness? Please give full particulars, as it has been spoken of quite favorably by some of my colleagues who have used it.

R. D. M., Brooklyn.

ANSWER.—The Girard treatment for seasickness is that described in the article entitled "Atropin and Strychnin Combined, a Specific for Seasickness," by Brigadier-General Alfred C. Girard, U. S. A., retired, which appeared in THE JOURNAL, June 23, 1906, p. 1925. Dr. Girard advises, as the result of his observations, that, in almost every instance, hypodermic injection of 1/120 of a grain of atropin sulphate with 1/60 of a grain of strychnin sulphate is readily borne by adults and as a rule causes no disagreeable sensation. The good effect of the treatment is believed to lie in the stimulating effect of the atropin on the circulation in the brain, while the strychnin causes, through the spinal cord, a similar action on the respiration. The medicine may be put up in capsules for administration through the mouth, but, in this case, the effect is not produced so rapidly and there is a possibility of accumulation in the stomach with its consequent disadvantages.

INTERNATIONAL MEDICAL CONGRESS

To the Editor:—Where can one obtain information about the International Medical Congress, which meets in London in August? How can one become a member?

C. J. F.

ANSWER.—Something about the congress will be found in THE JOURNAL in the London Letter, this issue, also June 7, 1913, p. 1804; May 24, 1913, p. 1649, and April 12, 1913, p. 1175. The American secretary, Dr. Allen of Philadelphia, has already left for Europe and inquiries for circulars of information may be addressed to Dr. W. S. Thayer, 406 Cathedral Street, Baltimore.

Membership in the congress costs $5, which may be sent to the treasurer, 13 Hinde Street, London W., England. On arrival in London one may obtain information from the general secretary, Dr. W. B. Harringham, at that same address. If one has not remitted in time to have his card of identity forwarded to him in his country, he can secure it on arrival in London from the secretary or the treasurer. This card allows concessions in price on a number of steamship lines and on railroads in England, France, Spain and Portugal.

VACCINE ARTICLES IN PAMPHLET FORM

To the Editor:—Enclosed find 75 cents, for which kindly send me the book "Disturbances of the Heart." I trust that the series of articles on vaccine therapy now being published in THE JOURNAL will be printed in book form.

C. L. SHERMAN, M.D., Luverne, Minn.

ANSWER.—These articles on vaccine therapy are to be gathered in a paper-covered reprint, which we will probably sell at the nominal price of 10 cents.

STERILIZATION OF CATGUT

To the Editor:—Please tell me how plain and chromicized catgut and silk and silkworm-gut ligatures may be sterilized by the general practitioner in country practice. Can it be done satisfactorily? If so how is it done, and how is the gut preserved when bought unsterilized from reliable concerns?

H. B. PITTS, M.D., Provincetown, Mass.

ANSWER.—An efficient method of sterilizing catgut consists in the immersion of raw catgut in skeins for eight days in a mixture of iodin 1 part, potassium iodid 1 part and distilled water 100 parts (Claudius' method). It is then kept in alcohol or 3 per cent. phenol (carbolic acid) solution and is ready for use. Chromicized catgut, as purchased in the market, is ready for use. It is made by immersing raw catgut wound on spools in a solution of potassium bichromate 1.5 gm., glycerin and phenol, each 10 c.c., and water 1 liter, for twenty-four hours. Then it is drained, dried and placed in 2 per cent. dilution of liquor formaldehydi for from one to seven hours, depending on size of catgut, and is kept in 95 per cent. alcohol with from 8 to 10 per cent. glycerin added.

Catgut already prepared for use is on the market and can be depended on if made by a reliable firm. The glass containers are immersed in 95 per cent. alcohol and are removed from this fluid only when catgut is needed. Silk and silkworm-gut are boiled in plain water for half an hour just before using, or they may be placed in a steam sterilizer with the dressings. They are then ready for use.

DID NOT DISCUSS IT

To the Editor:—I notice that in THE JOURNAL, May 31, 1913, p. 1731, under the report of the proceedings of the Medical Association of Georgia, I am quoted as discussing Dr. J. W. Palmer's paper on "Treatment of Pneumonia." I did not discuss this paper, and the remarks attributed to me on the subject were probably made by some one else.

CLAUDE A. SMITH, M.D., Atlanta, Ga.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

STATE PROVISIONS FOR HEALTH SUPERVISION OF SCHOOLS

So many requests for information regarding the provisions in the various states for the health supervision of schools have been received, and so much interest has been manifested on the subject, both by physicians and by teachers, that it seems advisable to publish an abstract of existing laws. In most states the provisions are in the form of special statutory enactments. In a few states, in which the state board of health is given sufficient authority, it is in the form of regulations or rules adopted by the state board. As pointed out in a previous article on this subject, the simpler and broader the law the better.

ABSTRACT OF LAWS AND REGULATIONS

California.—Adopted 1909. Permissive. Applies where adopted. Administered by school authorities. Provides for supervision of teachers and pupils as to health and general physical development. Inspectors may be either physicians or educators.

Colorado.—Adopted 1909. Mandatory. Applies to all public schools. Administered by school authorities. Teachers or principals test sight, hearing and breathing of all pupils annually. School authorities report to parents mental, moral or physical defectiveness discovered. Enforcement by State Bureau of Child and Animal Protection.

Connecticut.—Adopted 1907. Permissive. Applies where adopted. Administered by school authorities. Physicians inspect children for contagious diseases. Physicians may examine teachers, janitors and school premises. Physicians conduct sight, hearing and physical examinations of children annually. Defects of children reported to parents. School authorities may appoint school nurses.

District of Columbia.—Regulations of health officer and board of education. Adopted in present form in 1907. Mandatory. Applies to all public schools. Administered by health authorities. Physicians examine children for contagious diseases. Physicians examine sanitary conditions of buildings. Physicians may examine teachers and janitors.

Indiana.—Adopted 1911. Permissive. Amended 1913 and made mandatory. Applies where adopted. Administered by school authorities. Physicians inspect children for contagious diseases. Teacher may test sight and hearing annually. Physicians conduct physical examinations of children. Defects of children reported to parents. The students are so divided that there are not more than 2,000 children to each physician appointed. Compensation of physicians not less than $5 for each school month. Physician may examine teachers, janitors and buildings. If parents are too poor to provide necessary medical treatment it shall be paid for from public funds. Penalty of $5 for violations of provisions of act.

Louisiana.—Adopted 1911. Regulations of sanitary code of state board of health having force of law. Mandatory. Applies to all public schools. Administered by school authorities. Principal of each school makes monthly report on physical condition of children, and sanitary condition of buildings on blanks furnished by the state board of health. Principals and teachers exclude children suffering from contagious diseases.

Maine.—Adopted 1909. Mandatory on condition. Applies to cities and towns of less than 40,000. Administered by school authorities. The children are so arranged that there are not more than 1,000 pupils to each physician appointed. Physicians inspect children for contagious disease. Physicians may examine teachers, janitors and buildings. Tests of sight and hearing as to pupils annually by teachers or physicians. Physical examination of pupils annually by physicians. Defects of children reported to parents.

Massachusetts.—Adopted 1906; amended 1910. Mandatory. Applies to all public schools. Administered by school or health authorities. Physicians inspect children for contagious diseases. Physicians may examine teachers, janitors and buildings. Tests of sight and hearing of pupils made by teachers annually. Physicians make physical examinations of children annually. Defects of children reported to parents. Normal schools train students in testing sight and hearing. Physicians conduct examinations of minors applying for age and schooling certificates.

Minnesota.—Regulations of board of health having force of law. Adopted 1910. Mandatory. Applies to all public schools. Administered by health authorities. Physicians examine for contagious diseases. Physicians may inspect teachers, janitors and buildings. Physicians conduct physical examinations of children annually. Defects of children reported to parents. Teachers test sight and hearing of children annually. Normal schools train pupils in testing sight and hearing.

New Jersey.—Adopted 1909. Mandatory. Applies to all public schools. Administered by school authorities. Physicians examine for contagious diseases. Physicians conduct physical examinations, including sight and hearing tests. Defects reported to parents. Physicians deliver hygiene lectures to teachers. Parents and guardians may be proceeded against as disorderly persons for failure to remove any pathologic condition which may cause a child's exclusion from school.

New York.—Adopted 1910. Permissive. Authorizes school authorities to expend school funds for the support of medical inspection; amended 1913.

North Dakota.—Adopted 1911. Permissive. Applies where adopted. Administered by school authorities. Physicians conduct physical examinations annually. Defects reported to parents. Cooperates with board of health to curb contagious disease and to secure treatment for indigent children.

Ohio.—Adopted 1910. Permissive. Applies to cities. Administered by school authorities, but powers may be delegated to health authorities. Physicians inspect children and schools. School nurses may be employed.

Pennsylvania.—Adopted 1911. Mandatory in districts of first and second class. Permissive in districts of third and fourth class. Districts of first class are those of more than 500,000 population, second class from 30,000 to 500,000, third class 5,000 to 30,000 and fourth class less than 5,000. Administered by school authorities. Physicians conduct complete physical examinations of children annually. Physicians make sanitary inspection of school premises annually. In districts of fourth class medical inspectors are appointed by

state commissioner of health. Provision for employment of graduate nurse.

Rhode Island.—Adopted 1911. Mandatory with permissive clause providing for employment of physicians. Administered by school authorities. Physicians when employed make annual examination of pupils, teachers and janitors in public and private schools and inspect buildings and surroundings. Annual vision and hearing test by physicians or teachers. Defects of children reported to parents.

Utah.—Adopted 1911. Mandatory. Applies to all public schools. Administered by school authorities. Teachers or physicians examine all children annually for defects of sight or hearing, defective teeth or mouth-breathing. Defects reported to parents.

Vermont. — Adopted 1910. Permissive. Applies where adopted. Administered by school authorities. Physicians inspect pupils as provided by rules of state board of health. On request, physicians examine pupils of private schools.

Virginia. — Adopted 1910. Permissive. Applies where adopted. Administered by school authorities. Authorizes school boards to support systems of medical inspection.

Washington.—Adopted 1909. Permissive. Applies to cities of the first class. Administered by school authorities. Authorizes school boards to appoint medical inspectors who shall report monthly on health conditions in each school.

West Virginia.—Adopted 1911. Mandatory in cities. Permissive in country districts. Administered by school authorities. Physicians inspect children for contagious diseases. Physicians conduct physical examinations annually. Physicians on request of board report on lighting, ventilation, etc. School nurses may be employed.

UNIFORMITY DESIRABLE IN LEGISLATIVE ENACTMENTS

In the recent legislative sessions fourteen states, including Colorado, Indiana, Minnesota, Nebraska, Ohio, Oklahoma and Texas, have considered health supervision of schools and have in most cases enacted laws, some amendatory, as in Indiana, others dealing with the matter for the first time.

An examination of the various statutes would suggest that there should be uniformity of legislative enactment, which would require:

1. Compulsory health supervision of school children, etc.
2. A provision placing the administration of the system in the hands of the school authorities, with discretion to cooperate with the health authorities in an epidemic, etc. Whether the inspection should be in the hands of the school authorities or the local health board is still an open question.
3. Inspection by a physician to control contagious diseases.
4. Annual examination by physician to discover defects of a deterrent nature.
5. Annual tests of sight and hearing by teachers.
6. Examination of teachers and janitors and regular inspection of buildings, premises and drinking-water to insure sanitary condition.
7. Normal schools to train in conducting vision and hearing tests.
8. Provision for the employment of school nurses.
9. A penalty or other provisions to secure enforcement of the law.

Clearing Texas of Quacks.—The thing for us to do then, if we desire to enforce the medical practice act, says the *Texas State Medical Journal*, is to assist in securing the evidence. Whenever we undertake prosecutions in earnest and go about it in an intelligent manner, success usually follows our efforts. We are moved to these remarks by the continued success of Bexar County Society in cleaning up San Antonio. Suit was recently filed for the revocation of the licenses of Drs. T. M. Stotts and S. V. Young of the advertising firm of Drs. Stotts & Co., with what appears to be ample evidence in the case; fine and jail sentence were imposed on an "Indian doctor" who had pleaded guilty to practicing medicine without a license, and fines and jail penalties were given two "magnetic healers" who also pleaded guilty of the charge of practicing medicine without a license. The state is full of undesirables of this class and we trust that other societies will follow the example of Bexar County.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Capitol, Montgomery, July 8. Sec., Dr. W. H. Sanders, Montgomery.

ARIZONA: Phoenix, July 1. Sec., Dr. John Wix Thomas, National Bank of Arizona Building.

COLORADO: Denver, July 1. Sec., Dr. David A. Strickler, 612 Empire Building.

CONNECTICUT: Regular, City Hall, New Haven, July 8-9. Sec., Dr. Charles A. Tuttle, 196 York Street; Homeopathic, Grace Hospital, New Haven, July 8. Sec., Dr. Edwin C. M. Hall, 82 Grand Avenue.

DELAWARE: State Society and Homeopathic, Dover and Wilmington, June 17-19. Secretary of the Medical Council, Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

DISTRICT OF COLUMBIA: Washington, July 8. Sec., Dr. George C. Ober, 125 B St., S. E.

ILLINOIS: Coliseum Annex, Chicago, June 17-19. Acting Sec., Mr. Amos Sawyer, Springfield.

MARYLAND: Regular, 1211 Cathedral St., Baltimore, June 17. Sec., Dr. J. McP. Scott, Hagerstown.

MASSACHUSETTS: State House, Boston, July 8-10. Sec., Dr. Walter P. Bowers, Room 159, State House.

MISSOURI: Gymnasium of St. Louis University, St. Louis, June 16-18. Sec., Dr. J. A. B. Adcock, Jefferson City.

MONTANA: Senate Chamber, Capitol Bldg., Helena, July 8. (First special examination held aside from regular semi-annual examinations.) Sec., Dr. William C. Riddell, Helena.

NEW HAMPSHIRE: Concord, July 8-9. Regent, Mr. H. C. Morrison, State Library.

NEW JERSEY: Capitol Bldg., Trenton, June 17-18. Sec., Dr. H. G. Norton, 429 E. State St., Trenton.

NEW MEXICO: Santa Fe, July 14. Sec., Dr. W. E. Kaser, East Las Vegas.

NEW YORK: June 24-27. Chief of the Examinations Division, Harlan H. Horner, Department of Education, Albany.

NORTH DAKOTA: Grand Forks, July 1. Sec., Dr. G. M. Williamson.

OKLAHOMA: Guthrie, July 8-10. Sec., Dr. John W. Duke, Guthrie.

OREGON: Portland, July 1. Sec., Dr. E. B. McDaniel, 704 Electric Building.

PENNSYLVANIA: Harrisburg, Philadelphia and Pittsburgh, June 23-25. Sec., Mr. Nathan C. Schaeffer, Department of Public Instruction, Harrisburg.

RHODE ISLAND: State House, Providence, July 10. Sec., Dr. Gardner T. Swarts, State House.

TEXAS: Capitol Bldg., Austin, June 24-26. Sec., Dr. W. L. Crosihwait, Suite 1110 Amicable Bldg., Waco.

UTAH: Salt Lake City, July 7-8. Sec., Dr. G. F. Harding, 310 Templeton Building.

VIRGINIA: Richmond, June 24-27. Sec., Dr. Herbert Old, Norfolk.

WEST VIRGINIA: Charleston, July 14-16. Sec., Dr. H. A. Barbee, Point Pleasant.

WISCONSIN: Milwaukee, June 24-26. Sec., Dr. J. M. Beffel, 3200 Clybourn Street.

WYOMING: State House, Cheyenne, June 25-27. Sec., Dr. J. B. Tyrrell, Laramie.

College Reported Not Recognized Has Graduates

During last year a new medical college, at first called the Eclectic School of Medicine of Milton University, was organized in Baltimore. After a short time Milton University is said to have disclaimed any relationship with it, and the name was changed to the Eastern University School of Medicine. After investigation the institution was also reported by the Maryland State Board of Medical Examiners as not recognized, and considerable local publicity was at the time given to that fact. Nevertheless, the school is said to have continued, and to have had about thirty-eight students, all of whom were in the senior class and all of whom graduated. It would be interesting to know where these students received their previous medical training.

Although not eligible for examination, some of these "graduates" were said to have passed the examination of the Eclectic Board of Georgia and are now seeking licenses in Maryland and elsewhere through reciprocity. Maryland has properly refused on the ground that being ineligible for the Maryland examination, these candidates were also ineligible for registration through reciprocity.

Indiana January Report

Dr. W. T. Gott, secretary of the Indiana Board of Medical Registration and Examination, reports the written examination held at Indianapolis, Jan. 14-16, 1913. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of

candidates examined was 20 of whom 18 passed, including 1 osteopath, and 1 failed. One candidate did not complete the examination. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
University of Colorado	(1912)	92.8
Hahnemann Medical College and Hospital, Chicago	(1912)	82.8
College of Physicians and Surgeons, Chicago	(1912)	89.4, 92.1
Bennett Medical College	(1912)	83.5
Northwestern University Medical School	(1912)	91.0
Rush Medical College	(1911)	93.6
Indiana University	(1912)	88.7
Physio-Medical College of Indiana	(1881)	75.0
University of Louisville	(1912)	75.2, 90, 92.4
American Medical College, St. Louis	(1912)	87.5
N. Y. Homeopathic Med. College and Hospital	(1892)	80.1
Albany Medical College	(1892)	90.4
University of Pennsylvania	(1891) 79.9; (1912)	92.8
FAILED		
University of Louisville	(1912)	71.5

South Dakota January Report

Dr. L. G. Hill, secretary of the South Dakota State Board of Medical Examiners, reports the written examination held at Watertown, Jan. 10-11, 1913. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 15, all of whom passed. Two candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Rush Medical College	(1902) 83; (1911) 87,	89, 91
Northwestern University Medical School	(1910)	84
Bennett Medical College	(1909) 76; (1911)	90
College of Physicians and Surgeons, Chicago	(1893) 85; (1912)	81, 83
Chicago College of Medicine and Surgery	(1911)	80
National Medical University	(1894)	78
Ensworth Medical College	(1911)	92
Creighton Medical College	(1912)	84, 86

College	Year Grad.	Reciprocity with
LICENSED THROUGH RECIPROCITY		
Barnes Medical College	(1899)	N. Dakota
Lincoln Medical College	(1910)	Nebraska

Missouri February Report

Dr. J. A. B. Adcock, secretary of the Missouri State Board of Health, reports the written examination held at St. Louis, Feb. 24-26, 1913. The total number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 39, of whom 29 passed and 10 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
University of Arkansas	(1911)	88
Rush Medical College	(1906)	90
Johns Hopkins University Medical School	(1909) 87; (1912) 85, 89.	
Harvard University Medical School	(1911) 89; (1912)	85
Homeopathic Medical College of Missouri	(1898)	78
Washington University, St. Louis	(1899) 78; (1901)	78, 78
University Medical College, Kansas City	(1912)	79, 86
Marion-Sims College of Medicine,	(1891) 78; (1898) 78; (1899) 77.	
Marion-Sims Beaumont College of Medicine	(1903)	79
American Medical College,	(1890) 78; (1892) 80; (1894) 78; (1911) 76.	
St. Louis University	(1912)	86
Missouri Medical College	(1889) 78; (1896)	80
Columbia University, College of Phys. and Surg.,	(1910) 83; (1911) 89.	
Creighton Medical College	(1908)	80
Vanderbilt University	(1912)	88
Royal University of Palermo, Italy	(1906)	80
FAILED		
Barnes University	(1907) 68.3; (1910) 51.8; (1911)	64.9
Ensworth Medical College	(1912)	62.4
St. Louis College of Physicians and Surgeons,	(1906) 46.6; (1907) 66.3; (1908) 65.2.	
American Medical College, St. Louis,	(1909) 56.4; (1912)	71.3
Homeopathic Medical College of Missouri	(1908)	61.5

Book Notices

A MANUAL OF SURGICAL TREATMENT. By Sir W. Watson Cheyne, Bart., C.B., D.Sc., Senior Surgeon to King's College Hospital, and F. F. Burghard, M.S., F.R.C.S., Surgeon to King's College Hospital. Second Edition. In 5 Volumes. Volume IV. Cloth. Price, $6 net. Pp. 622, with 208 illustrations. Philadelphia: Lea & Febiger, 1913.

The fourth volume of the new edition is a comprehensive one. In it are discussed the surgical affections of the jaws and tongue, pharynx and esophagus, stomach and intestines, rectum and anus. The text has been revised and is said to contain the latest researches in surgery of the digestive tract. Under the caption of treatment of malignant tumors of the upper jaw, the means of producing anesthesia are well described and the intravenous administration of ether and intratracheal insufflation are recommended as being especially adapted to this class of work. All the topics considered are discussed at some length, although always from the authors' point of view; therefore exception might be taken to many statements, not only by reason of difference of opinion but also on the basis of error. For instance, it is said that mechanic ileus due to gall-stones is rare. While that condition is by no means a common one, yet it occurs sufficiently often not to be classed as a surgical or clinical curiosity, and a gall-stone of sufficient size to block the small intestine may and does ulcerate through the wall of the gall-bladder into the intestine. Exception might also be taken to what is said of ileosigmoidostomy and excision of the colon—subjects which are dismissed in a few words with decidedly unfavorable comment. These operations have hardly been performed often enough and for a long enough period of time to warrant drawing positive conclusions as to their worth. The Andrews imbrication method of suture in herniotomy is not mentioned. Intestinal suture is dismissed with a mere mention of only one method of suturing, the Lembert. It would seem that in a work of this size and scope, every subject considered could be discussed fully, yet that is not the case in this instance. On the whole, however, the book contains much of value. It is not comparable with similar American works.

THE SURGERY OF THE SKULL AND BRAIN. By L. Bathe Rawling, F.R.C.S., Surgeon, with Charge of Outpatients, St. Bartholomew's Hospital. Cloth. Price, $6. Pp. 340, with 96 illustrations. New York: Oxford University Press, 1912.

Ten years of study and observation are said to form the basis of this work. The first chapter deals with craniocerebral topography and the succeeding chapters with the various lesions of the skull and brain. The section which may be considered the best is that dealing with tumors of the brain. In it are given clear descriptions of the tumors, the symptoms to which they may give rise and their treatment. This statement made by the author is deserving of frequent and emphatic repetition: "The great secret in operating on a brain tumor lies in knowing where to terminate the attempt at removal of the tumor and when to rest content with a pure decompression." So long as exploration of the brain substance is resorted to, so long will the mortality remain high. The chapter on technic is well written and reviews that phase of the subject thoroughly. The text is not verbose, in fact, the style is rather terse but none the less instructive. The illustrations are good.

PATHOLOGY. A Manual for Teachers and Students. By W. T. Councilman, M.D., Shattuck Professor of Pathology, Harvard Medical School. Cloth. Price, $4.50. Pp. 405. Boston: W. M. Leonard, 1912.

This book is an enlarged syllabus and is to be used as a teaching accessory. It outlines the plan which has been followed in teaching pathology in the Harvard Medical School. It contains no illustrations. Blank leaves on which students may make notes and drawings of specimens are inserted liberally after the various chapters. As with every syllabus, extensive supplemental reading is necessary. Protocols of autopsies are appended to many chapters. The book is practically a laboratory manual.

Medicolegal

Liability for Negligence in Making Diagnoses—Patients Entitled to Thorough Examinations and Proper Instructions—Results and Damages

(Rogers vs. Kee (Mich.), 137 N. W. R. 260)

The Supreme Court of Michigan affirms a judgment for $1,000 damages in favor of the plaintiff for alleged malpractice on the part of the defendant in neglecting to properly diagnose a fracture of the neck of the left femur, when professionally called to attend the plaintiff, and for unskillful and negligent treatment of the same. The court says that at the time of his injury the plaintiff was 55 years of age and a saw filer by trade. While lifting a circular saw weighing from 130 to 140 pounds, and turning to carry it, he felt something give way in his hip, causing him to drop the saw. He soon resumed his work, continuing during the balance of the day, mostly in a sitting posture, and walked home at night on an earth path, a distance of about half a mile, by the aid of sticks used as canes. He continued at his usual work the next day, which was Saturday, and the following Monday walking to and from the same with some difficulty, using canes, sometimes receiving assistance from others. On Monday evening his condition was such that he called the defendant to attend him professionally, the defendant being a regular physician retained by the mill company for which the plaintiff worked to professionally care for its employees.

The testimony was in conflict as to much of what was claimed to have occurred during that and subsequent visits. The defendant testified that he found no symptoms of a fracture of the femur; that, if there had been any fracture or dislocation of the hip, he made such an examination as would have disclosed it; that from his examination and the history of the transaction communicated to him by the plaintiff and his wife he diagnosed the case as sciatica, and prescribed therefor the application of a mustard plaster; that he did not think the plaintiff's condition was caused by what occurred at the mill; that on visiting the patient the following day the defendant reached the conclusion from his statement that he then had no pain, that the trouble was not sciatica, but more probably paralysis; that he ordered the plaintiff to rub the muscles, but gave him no further treatment at that time because there was nothing further to do except to wait for developments; that he continued his visits for nearly a month, and was still uncertain what ailed the plaintiff, but thought he had some spinal trouble and suggestions of locomotor ataxia; that the plaintiff was able to be up and around and walk, though with some difficulty; that he furnished him crutches on which he later visited the defendant at his office.

After the defendant ceased his visits, or about two months after the injury, the plaintiff consulted another physician, who diagnosed the case and found him suffering from a fracture of the neck of the femur, and dislocation which had not been reduced, and which had existed for some time, a fibrous union having developed. The limb was shortened over two inches, and could be projected backward and forward but not sidewise. Various other physicians, who subsequently examined the plaintiff and testified as experts in the case, confirmed this diagnosis and a statement as to the importance of prompt attention to such cases, and the hopelessness of successful treatment after the lapse of any considerable length of time.

There was not only an abundance of testimony to justify the court in leaving to the jury the question as to whether the plaintiff was suffering from a fracture of the neck of the femur at the time the defendant first visited him professionally, and the fact that he was being established, there was also abundant evidence to go before the jury on the issue of the defendant's negligence in failing to properly diagnose and treat the case, for, on the assumption that the plaintiff was suffering from the fracture, as stated, when the defendant first visited him professionally, the testimony of the physicians called as experts by both sides as to what he could and should have discovered and done was sufficient to raise an issue of fact as to the defendant's negligence in failing to properly examine, diagnose and discover the fracture, in directing the patient to walk and move the broken limb instead of keeping it quiet in one position, to aid a bony union, and in not informing him as to the nature of the injury, so he would be advised and could cooperate with his physician understandingly in the treatment given.

The law is well settled that a patient who employs a physician is entitled to a thorough and careful examination, such as the condition of the patient and circumstances will permit, with such diligence and methods of diagnosis for discovering the nature of the ailment as are usually approved and practiced by medical men of ordinary learning, judgment and skill, in similar localities. If, by the exercise of such care and skill, the fracture would have been discovered, a failure to properly diagnose is negligence; and it is the duty of a physician, in taking charge of a case where there is a broken limb, to inform and instruct the patient as to his conduct and what caution should be observed in moving or using the limb while it is being treated.

The serious proposition urged and argued by the defendant's counsel was this: Assuming that the defendant did or omitted to do all that was claimed by the plaintiff, and conceding that the testimony would support the jury in so finding, there was no proof that the plaintiff suffered any injury as a result; the testimony, on the contrary, showing as good a recovery as ordinarily obtains under skillful treatment with a patient of the plaintiff's age following a fracture of the neck of the femur. That the correct treatment and probable results were scientific questions is undoubted, and the law seems well settled that malpractice must be substantiated by the testimony of expert witnesses in order to prevail, it being proper for other witnesses to testify as to the treatment and acts of the defendant, and the province of experts, physicians and surgeons to say whether or not the same was proper and the proper results. But it was the defendant's own testimony that he did not diagnose the case as a fractured femur, that such condition did not exist, and he gave no treatment for such an injury. As a result the questions for the experts resolved themselves largely into the difference between proper treatment and no treatment at all. The allegations related to offenses of omission rather than commission. The court thinks, however, that there was testimony from which injury to some extent might be inferred from the treatment given. The defendant diagnosed the trouble successively as sciatica, paralysis and locomotor ataxia. So far as he administered any treatment, it was for those maladies. He directed the application of a mustard plaster, and later massage and rubbing the injured hip with a liniment. The plaintiff testified that this was very painful. Pain and suffering from a wrong treatment are an element of damage. He directed the plaintiff to walk and exercise the limb. Portions of his own testimony indicated that this would be injurious and contrary to a proper treatment.

The testimony given by the various physicians relative to the proper treatment of such an injury imported clearly that a patient suffering from such an injury on calling a physician is entitled to approved methods of treatment from which experience of the profession indicates beneficial results are probable and to be anticipated, and, if not an entire recovery, a better ultimate condition than if left to chance. If so, can it not be legitimately inferred by a jury that the plaintiff, a strong man, who untreated and with his recovery left to chance, "shows as good results as would ordinarily obtain in a patient of his age under skillful treatment," if properly and skilfully treated would, in all probability, have a better recovery and be in yet better condition? The court thinks such testimony presents an issue of fact for the jury—on probability, it is true. The issues of sickness and healing, life and death, are too uncertain to be otherwise forecast, but negligence which deprives a man of such probability is more than injury without damage.

What would constitute an injury to the plaintiff in an action like the present has been thus defined: "Any want of the proper skill or care which diminishes the chances of the patient's recovery, prolongs his illness, increases his suffering, or, in short, makes his condition worse than it would have been if due skill and care had been used, would, in a legal sense, constitute injury." *Craig vs. Chambers*, 17 Ohio St. 253. Until the learned experts testify that no treatment would avail or be beneficial, that no better results are probable with treatment than without—in other words, that a physician is useless in such a case—the court thinks that such facts as were shown in this case present an issue for the jury.

Admissibility and Weight of Evidence in Action for Services in Another State Met by Charge of Malpractice

(Feingold vs. Lefkovitz (Tex.), 147 S. W. R. 346)

The Court of Civil Appeals of Texas reverses a judgment rendered for the defendant and remands for a new trial this case brought by the plaintiff to recover $99 for professional services as a physician, rendered in the city of Chicago, Ill. to an infant child of the defendant, and $5 paid for a microscopic examination for the account of the defendant. The court says that the plaintiff was a regularly licensed and practicing physician, and was called in by the defendant to treat the child, and the evidence raised no issue as to the reasonableness of the charges made; but it was contended that the treatment given the child was not proper, and that the plaintiff was incompetent, negligent, and guilty of malpractice and unskillfulness in his treatment. The testimony of the plaintiff and of another physician, however, made a prima facie case, and showed that the treatment given was necessary and proper; that the plaintiff was competent, and guilty of no negligence, malpractice, or unskillfulness.

It was true that the testimony of the plaintiff was contradicted in certain respects by the defendant and his wife; but those contradictions were not on the material issues in the case, and, assuming the truth of the testimony of the defendant and his wife as to those disputed matters, they did not support a finding that the treatment was unnecessary or improper, or of any negligence, malpractice, unskillfulness, or incompetency on the part of the plaintiff. At best, the testimony of the defendant and his wife would no more than suggest a surmise or conjecture of improper treatment. It was true the defendant stated that the plaintiff was an incompetent physician; but that was plainly only an opinion of his own on a subject of which he was in no wise shown to have any knowledge. That the plaintiff was not qualified, or that his treatment was negligent or unskillful, must have been shown by some competent evidence, in order to sustain a verdict in favor of the defendant; and it must not be based on surmise or conjecture, or supported merely by the opinion of the defendant of incompetency, when it was manifest that such opinion was of no value. As to the item of $5 paid for microscopic examination, there was a conflict in the testimony as to whether or not the examination was authorized by the defendant; and if he did not authorize it he would not be liable for it.

The question of whether or not the plaintiff had complied with the laws of the state of Illinois and was authorized to practice medicine in that state should not have been submitted to the jury for their determination if the facts in regard thereto were undisputed; while, if there was any dispute, the court should have informed the jury what was required by the laws of the state of Illinois, in order that they might determine from the facts before them whether or not the plaintiff had complied with those laws. But there was no error in excluding a copy of the plaintiff's license to practice medicine when the failure to produce the original was not satisfactorily explained. Neither did the court err in excluding a certificate of the county clerk of Cook county, Ill., to the effect that the plaintiff had registered his license in that office. At any rate the exclusion of the license and certificate was immaterial, in view of the fact that the plaintiff was permitted to testify, without objection, that he was a regularly licensed and practicing physician.

Case Properly Presented under Medical Practice Act

(Stiles vs. State (Tex.), 148 S. W. R. 326)

The Court of Criminal Appeals of Texas affirms a conviction of unlawfully practicing medicine without a certificate from the State Medical Board, or a diploma from some accredited medical college, etc. The court says that this prosecution was not had under Article 750 of the penal code, which was Section 4 of the Act of 1907, making it unlawful for a person to practice medicine without registering a certificate or license with the district clerk of the county of his residence, but it was under Articles 751 to 756, inclusive, which are, respectively, Sections 5, 6, 7, 10, 13 and 14 of the act of 1907, and which require each person, before practicing, to get a license or have a diploma. Consequently it was not necessary for the information to allege the county of the defendant's residence, and that she had not registered her certificate or license in the district clerk's office of such county of her residence, as certain cases hold is essential when the prosecution is under Article 750. Nor was there error in the charge of the court in that it authorized a conviction on transactions occurring prior to September 1, 1911. It was true that the state could have carved out the first and second days of September as the days on which the offense was committed, as each day was a separate offense, and, if the allegations in the information had charged that the offense was committed on the particular date of September 1, and no other, then the proof and charge should have been so limited; but, instead of carving for said date of September 1, 1911, or any other specific time, it embraced the whole of the period on and prior to September 1, 1911, to within the period of limitation. All this was to the defendant's advantage, and not her disadvantage, for, if convicted, as she was, and the proof embraced a period of from the early summer of 1911 up to and including September 1, 1911, that conviction would be a bar to any and all other offenses in that county for any time within such period.

Liability of Employers for Injuries from X-Rays Applied on Their Demand

(Jones vs. Tri-State Telephone and Telegraph Co. (Minn.), 136 N. W. R. 741)

The Supreme Court of Minnesota affirms a judgment for damages for personal injuries alleged to have been sustained by the plaintiff in being exposed to x-rays by a physician employed by the defendant, which wanted the picture for its own purposes, probably as evidence in case the plaintiff should bring suit against it to recover for the injury received in an accident. The court says that the somewhat unusual facts were that the plaintiff received an injury while in the employ of the defendant as a lineman. A physician was called who diagnosed the case as a displacement of the sacro-iliac joint, and used heroic treatment that was claimed to have resulted in forcing the joint into place. The plaintiff was making good progress toward recovery, when the general manager of the defendant requested him to submit to an x-ray picture being taken. The plaintiff opposed this, expressing his fear of injurious consequences, assuring the defendant's manager he was all right, and offering to release the defendant from all claims for damages on account of the injury. The plaintiff's physician also opposed the taking of the x-ray picture. But the manager guaranteed that the taking of the picture would not injure the plaintiff, and threatened to discharge him if he refused to submit. After a good deal of hesitation and resistance, the plaintiff finally consented that the picture might be taken, and he was taken by defendant's manager to the office of the physician employed by the defendant for the purpose of taking the picture, who applied the x-ray over the abdomen for the purpose of taking a picture of the sacro-iliac joint. The plaintiff testified that the current was left turned on for more than seven minutes, claiming to have received a severe burning of the tissues by the application of the x-ray, and, as a result, to be suffering from paralysis of the bowels.

The relation of physician and patient did not exist between the physician who made the application of the x-ray and the

plaintiff. The physician was the servant of the defendant. The case was the same, therefore, as if the defendant's manager, or any other agent or employee, had inflicted the injury, and the rule of respondent superior, or let the master answer, applied, rather than the law relative to the liability of a physician or surgeon to his patient, or to the liability of a master who employs a physician to treat his servant.

It is quite clear to the court that it was a case for the jury. It was not necessary to determine the effect of the manager's guarantee of safety on the liability of the defendant. The instrumentality was under the exclusive control of the defendant, and there was sufficient evidence that injury to the subject was not a necessary result of the taking of an x-ray picture, if proper instrumentalities and proper care were used. Certainly the court cannot say that the plaintiff's injuries were not the result of the exposure. These facts were enough to make the case one of res ipsa loquitur, or the matter speaks for itself, and to make the burden on the defendant to show that there was no negligence. The defendant did not show this, at least conclusively. Indeed, there was sufficient evidence of negligence, even without the res ipsa rule, to make a case for the jury.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20

American Academy of Medicine, Minneapolis, June 13-15.
American Proctologic Society, Minneapolis, June 16-17.
Conf. of State and Prov. Boards, St. Paul, June 13-14.
Maine Medical Association, Portland, July 2-3.
North Carolina State Medical Society, Morehead City, June 17.
Washington State Medical Association, Everett, July 14.

AMERICAN NEUROLOGICAL ASSOCIATION

Thirty-Ninth Annual Meeting, held at Washington, D. C. May 5-7, 1913

(*Concluded from page 1819*)

Giant Tumors of the Conus and Cauda Equina

DRS. JOSEPH COLLINS and CHARLES A. ELSBERG, New York: The patient begins to complain of pain and stiffness in the back, extending down the posterior aspect of one and then of the other thigh. The pain is intermittent at first, and later is continuous. After the expiration of a year or more, the symptoms become worse; single or double drop-foot appears, the lower limbs become weaker and stiffer, and knee- and ankle-jerks disappear. Then follow difficulties in the functions of the bladder and rectum, irregular sensory loss, rigidity of the lumbar vertebral column and tenderness of the lumbar spines. Peroneal palsies are regularly found with electrical changes. The patients are often suspected of tabes, and have usually been treated for long periods for sciatica. The important features of the clinical histories were the following: A history of one or more years' duration; pain in the small of the back sooner or later extending down one and then the other extremity; stiffness of the back in the lumbar region; increasing weakness and stiffness of the lower extremities with loss of power of dorsal flexion of the foot, and slight disturbances of the bladder and rectum. The important features of the clinical examination were the following: rigidity of the lumbar vertebral column; weakness and stiffness of the lower limbs; paralysis of the peroneal groups of muscles and sometimes of the tibialis anticus group; drop-foot on one or both sides; absence of knee- and ankle-jerks; tenderness of the lower lumbar spines; irregular and unsymmetric sensory disturbances; lumbar puncture usually negative, no fluid obtained, Wassermann test and roentgenogram negative. The typical findings at operation consisted of a large reddish-brown non-vascular tumor within the dura, which filled up the entire lower part of the spinal canal, surrounded the roots of the cauda equina and extended upward on the conus, with which it was not closely connected. The growth is not intimately connected with the inner surface of the dura, and can be easily freed from it, after which the inner surface of the dura is found to be smooth and glistening. The growths are well encapsulated above, but are closely connected with the nerve-roots below. The peculiar features of the tumors are their large size, the late appearance of bladder and rectal disturbances, the relatively small amount of sensory loss in spite of the fact that the tumors fill up the entire lower part of the spinal canal, and the benign course of the disease, without tendency to perforate the dura. Operative interference should be done in two stages by the "extrusion" method. If the cases are recognized early, radical removal of the growths should be possible.

DISCUSSION

DR. ARCHIBALD CHURCH, Chicago: I am reminded by Dr. Knapp's paper of an interesting experience of comparatively recent date; the recurrence of three tumors followed by three successful operations in the same patient. The first tumor made its appearance four years ago. At the end of a year the patient was entirely paraplegic. Dr. H. T. Patrick saw the case in consultation. Dr. J. B. Murphy operated. A tumor was removed from the cervical region. The patient made an uneventful recovery and in the course of six months she recovered. At the end of two years she began to have the same symptoms of spinal tumor and within six months had developed the same symptoms. A second operation found another growth in connection with the pia about one inch lower than the first tumor. Whether this was a recurrence of the first growth we did not know. It was supposed to be essentially an independent neoplasm. For nine months she had comparative freedom. Two weeks ago she came back to Chicago for recurrence. Early last week a third operation was done and a third tumor removed. So we had one on the right, one on the front and one on the left. I have had two cases of cauda equina tumor. About eight years ago a surgical friend had the typical manifestations of caudal lesion. This endotheliomatous growth filled the entire neural cavity and was supposed to be so intimately related to the cord that no attempt was made to remove it. The man perished from kidney trouble. About three years ago I saw a young boy with terrible pains in the legs who had been treated for hysteria. After many months of observation he showed a little area of sensory loss corresponding to the cauda, and on this comparatively slight symptom, although the bladder was not materially affected, an operation was done and an infiltrating endotheliomatous neoplasm extending from the middle of the lumbar spine to the lower end of the sacral canal was uncovered. It was not considered feasible to remove it and safest to let the case take its course. The operation wound has remained perfectly solid. The symptoms have not increased, but a tremendous growth has invaded the abdomen, giving the appearance of a six months' pregnancy. Apparently the pressure has been relieved from the caudal region so that further neural symptoms are inhibited, and the growth has gone in the anterior direction. This large caudal involvement may be more frequent than we suppose.

DR. W. M. LESZYNSKY, New York: The mere fact that one cannot obtain cerebrospinal fluid should lead to a differential diagnosis between tumors of the cauda equina and inflammation of the roots.

DR. WILLIAM G. SPILLER, Philadelphia: This subject of the root neuritis confined to the lower portion of the cord is one of great interest. One cannot help wondering whether in this case there was a meningitis of a certain degree, possibly of a considerable degree, and whether the root changes were not part of this meningitis. Dr. Elsberg said that the cord showed nothing to the naked eye. There may be marked meningitis which is not to be detected by naked eye at all. Tumors vary greatly according to whether they are in the upper part of the cord or in the lower. In the upper they are more of the type of fibroma and endothelioma, well-defined tumors that may readily be removed in most cases

In the lower part of the cord they are much more malignant, infiltrating, liable to be of greater size and offering much more unfavorable conditions for removal. In one case of inoperable tumor I had DR. MARTIN cut the anterolateral columns to remove the pain. It was very successful. The patient lived two years after that operation. He died a few months ago, with an enormous tumor filling a large part of the abdomen.

DR. JOSEPH COLLINS, New York: It seems useless so far as the patient's restoration to a degree of health and usefulness is concerned to operate on patients with these caudal tumors as they are now being operated on, my experience being that it does not give them any considerable degree of life and does not restore them to any degree of health. The significance of this fact is that we must diagnosticate these cases earlier than we do now. If we rely on the presence or absence of the cerebrospinal fluid in a case that has the symptoms of caudal tumor in making the differential diagnosis, we shall go wrong frequently. I would make a plea for operation on these patients in every instance at the time when suspicion enters our mind that caudal tumors are present, and, second, for operation on patients with tumors of the conus five, six, eight, ten years before the time they are now operated on.

Pathology of Myasthenia Gravis

DR. SIDNEY KUH and DR. MORRIS BRAUDE, Chicago: We had a typical case of myasthenia gravis in a physician aged 50, of about five years' duration. Examination of the nervous system was made with the Weigert myelin sheath stain and Pal's modification of this, Mallory's chlorid of iron hematoxylin, Ford-Robertson's toluidin blue, thionin, Nissl's methylene blue, toluidin blue counterstained with erythrosin, uranium carmin, Van Gleason's stain, Weigert's fibrin stain and Weigert's stain for elastic fibers, on about 400 sections. Small areas of vascular sclerosis, recent (agonal?) hemorrhages, increase in glia tissue and corpora amylacea were found in the spinal cord. In the cervical region there was an aberrant bundle of fibers. In the higher levels of the cord capillary polymorphonuclear thrombi and chromatolysic and pigmentary changes were seen in the nerve cells. The relative intensity of the later findings remained approximately constant; that is, where the thrombi were numerous the changes in the nerve cells were greater. The same was applied to the medulla and corpora quadrigemina. In the cortex but few of these changes were to be seen; more in the optic thalami. The muscles showed nothing that had not previously been described. No trace of the thymus was found.

Bilateral Oculomotorius Palsy from Softening in Each Oculomotorius Nucleus

DR. WILLIAM G. SPILLER, Philadelphia, reported a case in which the chief features were bilateral oculomotorius palsy developing in an apoplectic attack, syphilitic in origin, implicating every muscle supplied by the oculomotorius in each eye, resulting from bilateral softening as two separate lesions confined to the nuclei of these nerves; without implication of other cranial nerves except the opticus, and without other symptoms except preceding mental disturbance, convulsions and some change in the patellar reflexes and succeeding extension of each big toe from plantar irritation. The several symptom-complexes resulting from vascular occlusions which he had studied, namely the occlusions of the posterior inferior cerebellar artery, of the uppermost portion of the anterior spinal and adjoining portion of the vertebral arteries, of the cervical anterior median spinal artery, of the vessels supplying the inner segment of each lenticular nucleus, and (in the case reported in this paper) of occlusion of the vessels to the oculomotorius nuclei were discussed. In the last-mentioned condition there are symmetrical softening and paralysis of all branches of the oculomotorius, although the paralysis may not be complete in all the muscles innervated by the nerve: there are also involuntary incoordinate movements and great rigidity with unconsciousness at the onset of the attack.

Early Perimetric Deviations Accompanying Hypophysis Lesions

DR. HARVEY CUSHING, Boston: A temporal hemianopsia as commonly recognized is merely a stage in the progress of the visual field defect associated with a growth originating near the chiasm, even when produced by a retrochiasmal lesion, which affects both temporal rather than homonymous fields. It is comparatively unusual to see patients in the stage of bitemporal hemianopsia with a vertical meridian separating blind from seeing halves. It is of clinical importance, therefore, that the preliminary stages in the process be recognized.

Lesions of the Hypophysis and of the Uncinate Region

DR. CHARLES K. MILLS and WILLIAMS B. CADWALADER, Philadelphia: Of eight cases seen by us one had presented uncinate without pituitary symptoms, necropsy in this case showing a large tumor involving the uncinate convolution, but extending into other regions of the cortex and subcortex. Of the other seven cases, three presented both pituitary and uncinate phenomena of a decided character. In the other four uncinate symptoms were absent, pituitary phenomena being pronounced. These phenomena, however, were of a mixed character, illustrating dyspituitarism rather than either hypopituitarism or hyperpituitarism. In one of the cases with decided uncinate symptoms no lesion of the temporal lobe was discoverable. In one case in which the patient died after operation, a necropsy showed a tumor involving the infundibulum and pineal gland and adjoining structures. In three of the cases in which operation was performed, pathologic conditions of the hypophysis were found at the operation and confirmed by microscopic examinations of parts of the tissue removed. We are favorable to the fronto-orbital operation of DR. FRAZIER for the exposure of the hypophysis. We believe that it has distinct advantages over that of approach by the nasal route. Only operation, however, gives successful results in a limited number of cases.

DISCUSSION

DR. J. RAMSAY HUNT, New York: Recently I saw a case of pituitary disease in which there were no changes in the sella turcica. The man was placed on pituitary extract for two or three weeks. He returned to the hospital saying that he had been seized quite suddenly with blindness. The blindness, it seems, had something to do with the acromegalic signs.

DR. HARVEY CUSHING, Boston: I have seen many cases of scotoma, and these scotomas, as de Schweinitz has pointed out, are apt to occur in the upper outer quadrant. They are largely due to the fact that there is apt to be fluctuation of these symptoms. The gland swells against the chiasm, which accounts for the loss of vision in the upper and outer quadrant. In cases which have passed beyond the stage to be cured by operation I would limit myself to a minor measure such as the mere relief of pressure rather than a large major operation such as the exposure of these structures through the frontal region. Such a lesion as a cyst is, of course, easily approached from below. The duration of the stay of the patient in the hospital from operation by the transsphenoidal route is comparatively a few days. It is not much more than a submucous resection of the septum, which the laryngologist not infrequently practices in the outpatient department. There have been 104 patients in my series and there have been 75 surgical cases. In 46 of the 75 the transsphenoidal operation has been done, in 22, subtemporal decompressions, and 8 have had transsphenoidal and temporal decompressions, so that there have been 93 operations. There have been 9 fatalities, about 10 per cent. Most of these fatalities occurred in the early series. Thus most of these fatalities were in cases which to-day we should recognize as inoperable or would adopt a simple measure. Two were simple subtemporal decompressions with very large tumors. I think that the operation merely takes part of the growth. It is inconceivable that one can remove the entire growth. If the growth is accessible from below I think it should be approached from below. What we want to do is to make room for enlargement of the growth. We cannot remove it

entirely. I feel that this measure to which Dr. Frazier has again called attention, which was first advocated by Hartley and subsequently by Krause, is in Dr. Frazier's skilful hands a measure that likely can often do good; but it is one which I should not like to see come into general use.

Huntington's Chorea: A Study in Heredity

DRS. SMITH ELY JELLIFFE, ELIZABETH B. MUNCEY and C. B. DAVENPORT, New York: In the last ten or twelve years we have been able to gather enough information to show that one could group these cases of Huntington's chorea into four large groups. This confirms the statement frequently made that Huntington's chorea does not skip a generation. Once the line of descent is free, always free. If one individual does not have the disease it means that he does not have it in his germ cells and hence cannot transmit it. The practical application of this rule to eugenics is diminished by the fact that Huntington's chorea does not come on until late in life. As to marrying, each member feels that he may escape, and if he considers the matter at all runs the chance. In a person whose onset is relatively late in life it is to be expected that the parents will often die before the disease is due to develop in them. In certain of the families one will find the cropping out of the Huntington chorea with nothing in the antecedent heredity, and later it turns out that there was illegitimacy, which occasionally comes into these charts to explain the law of mendelian dominance.

The Value of Roentgenoscopy of the Gastro-Intestinal Tract in Some Types of So-Called Functional Nervous Disorders

DR. L. PIERCE CLARK and DR. ARCHIBALD H. BUSBY, New York, reported that in a careful and complete roentgen analysis of eight cases of idiopathic epilepsy associated with severe gastro-intestinal disorder they found some form of abnormal position of the viscera (ptosis) which they judged to be pathologic in each case and which they connected with some of the clinical symptoms in the individual case. They outlined a system of physical therapeutics to overcome the gastro-intestinal ptosis which had been of functional benefit. They advised a routine roentgenoscopy in every case of genuine epilepsy with severe indigestion as an aid in exact diagnosis and treatment of the indigestion and the convulsive disorder itself.

DISCUSSION

DR. D. J. MCCARTHY, Philadelphia: I can support what Dr. Clark has said in his paper from an extensive study of the past year on not only this group of cases but also the entire group of functional cases that come to the neurologist's office. Whenever there has been any suspicion of gastro-intestinal involvement, I have had skiagrams made. The percentage of cases of what has been considered the purely functional neuroses in which lesions are found not only equal to those shown in Dr. Clark's group of cases, but even more intense, is surprising. Uniformly excellent results have been obtained from operation in those cases which have been well selected.

DR. HERMAN H. HOPPE, Cincinnati: I believe that, while the study of this condition is very interesting, before the profession can come to any conclusion as to the therapeutic results a larger number of cases must be studied. On the part of a great many patients there is an objection to having an operation of a serious character done for a primary condition that has existed for a long time. Some practitioners have found the straight-front corset to answer nearly all purposes. One case of epilepsy occurs to me as presenting complete recovery following operation.

DR. C. A. L. REED, Cincinnati: I have had some very satisfactory results following surgical restoration of these displacements. It is no more possible to reduce these displacements by medicines than it is to reduce a dislocated elbow with a dose of pills. I have not infrequently applied bandages, trusses, etc., with benefit, temporary or partial. But that medical treatment can by any possibility restore the patient to normal condition is something not for a moment believable.

NEW YORK ACADEMY OF MEDICINE

Meeting held May 15, 1913

The President, DR. WILLIAM M. POLK, in the Chair

The Cancer Research Institute

PROF. J. G. ADAMI, Montreal: The primary object of cancer research is the discovery of the means whereby humanity may be protected against cancer. There are two methods of attacking the problem, direct and indirect. Of the former Ehrlich has afforded a demonstration in his discovery of salvarsan. This method of research may be most laborious, hundreds of compounds having to be devised, tested and rejected, but it is a reasonable expectation that gradually certain groups of radicals will be encountered presenting definite specific action on one or another phase of the particular morbid process, and that eventually some permutations or combination of such substance or substances will be discovered which will definitely destroy the causative agent within the tissues, or arrest the morbid process without coincident grave injury to the tissues of the individual. This method is being followed by Wassermann and his coadjutors. It is a purely therapeutic method, even if at the same time purely experimental.

Scientific medicine has scored its most noted successes by means of the indirect method. The treatment and control of tuberculosis, diphtheria and other infections during the past thirty years dates from the moment at which the causative agents were determined, or, as in yellow fever, from the time when, through the employment of rigid analogy, the nature of the disease becomes realized; that is, the detection of the cause throws light on the mode of prevention of an allied disease. The indirect method is the one through which ideal cancer research must approach the solution of the problem by investigation into the nature of the process of normal tissue growth, into the life history of malignant growths and into the causes of neoplasm.

Admitting that an institute along these lines would be the better, and also admitting that despite the labors of a generation of investigators the cause of cancer is still undetermined how are we to proceed? The energies of the institute must not be devoted to immediate endeavors to determine the cause, but the position has to be invested from all sides and thoroughly undermined. It is better for an institute to concentrate on one line of attack, though this requires no little strength of mind with the full knowledge that it may possibly turn out to be futile. Cancer research to be well conducted necessitates heavy expenditure, so heavy that the institute is most likely to be of service if it takes up one or at most two lines of work. An instance of such concentration of effort is the work of the Imperial Institute for Cancer Research in London and of the Ehrlich Laboratory. If Dr. Gaylor and his associates have failed to discover the causative agent of cancer, they certainly have done yeoman service by the methods of exclusion. As a result of such work we have a much fuller knowledge of many aspects of the problem than we had ten years ago. We are now in a position to direct our efforts far more methodically and more serviceably than at any previous period. If, however, there were abundant funds, the ideal institute would be in such a center as this where there are abundant research workers in the various branches of biology and where experts of all orders may be gathered to make a combined attack from many sides. The plan outlined by Columbia College under the Crocker bequest seems to me admirable. My ideal of a cancer research in a great wealthy city is a combination of an institute as termed at Harvard a "commission." There must be a central institute or administration containing a library with all modern literature bearing on cancer research, a director's office and a suite of laboratories and animal rooms for the use of those making investigations under the immediate direction of the head of the institute. There should be a conference chamber, for informal conferences have a great value. It is by combined effort that success is most

likely to be attained. The development of this *esprit de corps* depends essentially on the influence of the head of the institute.

A desideratum of equal value is a hospital or certain wards in a hospital already existing. Failing this, there is danger that the work will become too academic, too remote from practical needs. In hospitals which afford treatment for needy patients, it must be laid down that in return families must consent in the case of death to a post-mortem examination. Beyond these two control sections there is no need to duplicate laboratories of physiology, cytology, general biology, pharmacology and experimental therapeutics. Make the heads of the laboratories members of the executive department of the institute and develop the spirit of cooperation so that there may be free consultation between the members of the executive department. Let these laboratories be thrown open to those willing and anxious to conduct investigations along any particular line under the direction of the head of each laboratory, the maintenance of the investigators and the cost of the investigation being paid by the institute. Let the work thus done be brought together and focused by the periodical conferences already referred to. All this depends on the spirit in which the work is entered into and, above all things, on the spirit and enthusiasm of the director.

Cancer Statistics

PROF. W. F. WILCOX, Ithaca, N. Y.: A summary of the arguments of Messrs. King and Newholme in their paper written in 1893 supporting the conclusion that "the increase in cancer is only apparent and not real" outlines the objections that have been raised to this conclusion and calls attention to the large body of new evidence on the subject which has accumulated in the intervening twenty years, especially that to be found in the international summaries published by the French government in 1907 and by the Amsterdam statistical bureau in 1911-1912 and in the annual mortality statistics of the registration area of the United States, 1900-1911. After an analysis of this and other evidence it may be concluded that probably the larger part and possibly all of the increase in the mortality from cancer is apparent rather than real. Those who doubt this conclusion and hold that most of the increase is real may interpret the evidence as showing that the real increase is not at a geometrical or even an arithmetical rate but diminishes as the death-rate from cancer rises and that, perhaps, in certain limited areas like Switzerland and a few cities, it is already approaching its maximum.

Public Education in Cancer

DR. WILLY MEYER, New York: What is the cause of cancer? This question certainly has some bearing on the subject of the public education in cancer. Pathologists in discussing this problem are absolutely opposed to the theory of cancer being due to a parasite or a micro-organism, whereas many general surgeons have by direct observation come to this conclusion. Plain logical thinking in the examination of patients could hardly make one think otherwise than that the cause of cancer is a living organism. The public should be taught that real progress in the cure of cancer can be made much faster after the cause of cancer has been found, just as great progress in our knowledge of tuberculosis has been made since the demonstration of the tubercle bacillus of Koch, and in syphilis after the discovery of the *Spirochaeta pallida*. The great trouble with reference to cancer is that there is not sufficient money, no large endowment fund available in every country in the world. If millions of dollars were available for this work on cancer there is no doubt but that rapid progress would be made in learning the cause of cancer.

Is cancer infectious, or contagious, or both? It does not appear that cancer can be conveyed from one person to another, as from husband to wife or from patient to nurse, and therefore the disease cannot be considered infectious. In one instance, however, I operated on a husband for papilloma of the bladder and later the disease recurred and involved the prostate. While treating this patient I was called to examine his wife and found her suffering from cancer of the cervix uteri.

Is cancer curable? This question is always primarily in the patient's mind. Cancer is curable by the surgeon's knife if the growth is removed radically at an early stage. The whole question resolves itself into early diagnosis and early operation. We all know the clinical development of the three stages: (*a*) when cancer is entirely a local disease; (*b*) when it is still a local disease with regionary lymph-nodes involved, and (*c*) when there are metastases. Undergraduates as well as postgraduates should be taught the importance of early diagnosis and should bear in mind certain symptoms that make these cases suspicious. Blood in the urine, blood from the rectum, or blood from the vagina after the menopause should excite suspicion and call for a thorough examination. The symptoms of cancer of the esophagus are most benign. The patient comes early to the physician because of difficulty in swallowing. The fluoroscope, the Roentgen ray and esophagoscopy, in the diagnosis of cancer of the esophagus, are valuable adjuncts and should be used without delay. The public should be taught these early signs of cancer. There are various associations which have taken this matter in hand. According to the laws of medical ethics it is hardly permissible for a doctor to write for weekly or monthly magazines, much less for the daily papers, in order to educate the public, but it is a splendid idea and possible for a man like Samuel Hopkins Adams to publish in *Collier's Weekly* articles which tend to educate the public regarding cancer. It is to be hoped that by publicity the same results which have been achieved with those afflicted with tuberculosis may be obtained in patients afflicted with cancer.

DISCUSSION

DR. ROBERT ABBE, New York: In spite of the greater number of cancer patients presenting themselves to the surgeon, the memory of the large surgical clinics of thirty or forty years ago recalls about the same proportion of cancer cases as at present. It must be the work of cancer research to study the cause more than the treatment of cancer. I have worked more along the line of treatment, especially local treatment. The remark of Dr. Meyer that the tendency now is to regard the causation as microbic does not agree with my observation. Ninety-five per cent. of breast tumors are disorders of the glandular structure of the breast and wholly unlike the other conditions, syphilis, tuberculosis and actinomycosis. In addition one sees that Dr. Carrel's growth of cells *in vitro* carrying on generation after generation of cell development in culture-tubes, demonstrates that living cells are not microbes though they may act like them. A further and very strong argument against the microbic origin of cancer is the fact that radium has a powerful influence on cancer cells, but not through its bactericidal action. The alpha rays are strongly bactericidal but the gamma rays are not so. The alpha rays are destructive only of tissue brought in intimate contact with them, while the beta rays are stimulating and only the gamma rays are efficient in causing retrograde changes in malignant cells. Hence, one must admit that cancers destroyed by radium when no access of alpha rays is permitted are altered by the non-bactericidal gamma rays which entirely alter their life course and render them inert and atrophied. The effects of radium rays on seeds whose vital force may be justly compared to that of animal cells, demonstrates that seeds kept for a while close to radium are killed, those at a slight distance are stimulated, and at a greater range they are devitalized and grow with less and less vigor up to a certain distance in comparison with unradiumized seeds planted under similar conditions. This coincides with the results seen in tumors. The failures of radium to cure certain tumors urges on the study of cause and effect. It is evident that the use of small or weak doses of radium has been inefficient, because of lack of knowledge of filtration to obtain the more competent penetrating gamma rays in massive doses. The cure by radium is not brought about by any action like cautery or caustic, but by restoring to the

aberrant cell growth some lost power of self control restoring it to normal line of growth. It seems that even with the small amount of radium available to the surgeon, the progress already made to apply this subtle and unique power gives promise of increasing future value.

DR. GREENOUGH, Harvard Cancer Research: The public and the general practitioner must be educated and made to understand the meaning of early symptoms which point to cancer. I operated on a patient aged 37 who had a cancer of the breast which she had noticed eight months before consulting me. It was not painful, but she was concerned because of its presence. She went to a general practitioner for advice and he said, "Does it pain you?" She replied that it did not, and he said, "Let it alone until it does bother you." After a period of six months the tumor began to bother her and again she consulted a physician who informed her that it was very suspicious and that she should have it removed. The tumor was removed and the pathologist reported that it was cancer. I believe in educating the public, especially along the lines of the early symptoms of cancers of the stomach, nephromas, etc., and to consult a physician without fail whenever a tumor is noted.

Resolution

The following resolution was carried:

WHEREAS, A movement has been started in New York City to educate the people at large on the subject of cancer, and,

WHEREAS, Sufficient influence in this work by laymen has been shown to raise money to start the campaign of education; be it

Resolved, That the New York Academy of Medicine gives its approval of the movement.

AMERICAN THERAPEUTIC SOCIETY

Annual Meeting held at Washington, D. C., May 5-6, 1913

The President, DR. NOBLE P. BARNES, Washington, D. C., in the Chair

The following officers were elected for the ensuing year: president, Dr. Howard Van Rensselaer, Albany; vice-presidents, Dr. Robert T. Morris, New York, Dr. Francis M. Pottenger, Los Angeles, and Dr. J. Madison Taylor, New York; secretary, Dr. Lewis A. Taylor, Washington, D. C.

A Limited Materia Medica

DR. NOBLE P. BARNES, Washington, D. C.: We need a properly limited materia medica with a rational scientific classification for the use of lecturers, examiners and students. Many sudents are so confused in the study of pharmacology, so discouraged in memorizing the mass of details that they fail to collect and retain the wheat and in time become drug nihilists. If we would treat the practice only with the absolutely proved drugs, materia medica and therapeutics would be placed on a sound and rational basis. Such a work should include only indispensable drugs and, so far as practicable, only those that had been assayed chemically or tested physiologically. The accurate knowledge gained from the study and use of these drugs would soon restrict the multitude of recognized and unrecognized remedies, give better control and better quality to these remedies, and enable the student to master everything from solubility to incompatibility, everything from methods of administration to variance in action.

The Absurdities and the Commercialism of the Proposed Ninth Decennial Revision of the U. S. Pharmacopeia

DR. OLIVER T. OSBORNE, New Haven, Conn.: Among the articles that should have no place in the new pharmacopeia are drugs having no therapeutic value, like lemon-peel and saffron; metals and chemicals of little or no drug value, like aluminum hydrate and uranium nitrate; drugs not needed or drugs whose effects could better be obtained from other drugs already official, like anthemis, cimicifuga, yerba santa, gambir, cottonroot bark, prickly ash, sarsaparilla, leptandra, etc.; preparations inferior to others, like fluidextract of digitalis (tincture better), fluidextract of gentian, fluidextract of cinchona; mixtures and compounds, like Basham's mixture and elixir adjuvans, and drugs that cannot be standardized, like lemon-peel. It is also unnecessary to include the parent substance just because it is desired to include a derivative; for example, the spices because it is desired to include their volatile oils.

DISCUSSION

DR. HARVEY W. WILEY, Washington, D. C.: There is a great difference of opinion on this point among medical men. If 15,000 prescriptions were collected and it was found that one particular ingredient appeared in a considerable number of them, it seems reasonable to conclude that the ingredient has some therapeutic value.

DR. O. T. OSBORNE, New Haven, Conn.: Fifteen thousand prescriptions are not a good test. The frequency with which a drug is used is no test as to its value. It might be foisted on the profession through advertisements.

Treatment of Diabetes and Pregnancy

DR. REYNOLD WEBB WILCOX, New York: If hydramnios exists, or the amount of glucose is excessive and uninfluenced by treatment, or the loss of flesh and strength is marked and, absolutely, if the fetus is dead, the uterus should be emptied at once. The viability of the child is usually problematic. A diabetic woman should not marry or, if married, should not be allowed to become pregnant. If a pregnant woman becomes diabetic, the dangers of labor are increased, not only from impaired vitality and lessened resistance to infection, but also because in severe diabetes a dead and even macerated child might result, or if the disease is mild, one of inordinate size. By successive pregnancies a curable case of diabetes might be converted into one that is incurable. Each patient should be studied carefully, and the procedure adopted that is justified by the condition of the patient and the persistence of the glycosuria.

DISCUSSION

DR. ALEXANDER D. BLACKADER, Montreal: I have seen two cases of diabetes of pregnancy: in one there has been no return of the glycosuria after term; the other has gone on to confirmed diabetes.

DR. ROBERT T. MORRIS, New York: Many cases of glycosuria are due to pancreatitis and consequent squeezing of the islands of Langerhans caused by the effects of bacteria escaping from the duodenum. As soon as the pancreatitis is relieved, the glycosuria disappears. The indication is to do away with the infection, if possible.

DR. J. J. KINYOUN, Washington, D. C.: In 200 necropsies at the tuberculosis hospital I have noted changes in the pancreas with squeezing of the islands of Langerhans in a considerable proportion of cases. Only in rare instances, however, have the patients given a history of diabetes.

DR. O. T. OSBORNE, New Haven, Conn.: According to good authority, uranium nitrate is a poison, particularly to the kidneys, and it has no therapeutic value commensurate with the dangers attending its use.

DR. R. W. WILCOX, New York: Any danger there may be could be obviated by frequent examinations of the urine.

The Treatment of Arteriosclerosis

DR. LOUIS F. BISHOP, New York: Arteriosclerosis is the reaction of the individual to the proteins that cause the disease. It sets in when something occurs in the individual to make him more susceptible to the disease. Accordingly, I have adopted the "few protein diet." All eggs, fish, meats and soup are excluded. Cheese is allowed as furnishing protein in a safe form, and later chicken is added tentatively. An ounce of castor oil is ordered every forty-eight hours for three doses, then another dose at the end of the week, and later a dose not less than once a month. Nitroglycerin is the great symptomatic remedy for all emergencies. Exercise and outdoor life are essential. For the cure of the arteriosclerosis, the underlying causes should be removed, and among these mental stress is important.

DISCUSSION

DR. J. MADISON TAYLOR, Philadelphia: Early recognition of the disease is important. It is fortunate in some cases if the individual has some other form of breakdown, as then the arteriosclerosis may be recognized and treated in its incipient stages.

DR. EDWARD D. FISHER, New York: Alcohol, overeating, gout, etc., are only predisposing causes. Laboring men are especially susceptible to arteriosclerosis; as a rule they are neither excessive eaters nor drinkers, but they are hard workers, and hard work and heredity are important factors in the etiology. Each one is given vessels good for a certain time under proper conditions; if he uses them conservatively, he may live out his allotted time; if he does not, his life is shortened accordingly. A proper diet, open-air exercise, a quiet life and freedom from worry and care are important factors in the treatment. Diet should be regulated to meet the needs of each individual patient. It should not be too strict when the patient is weak, or when his occupation demands great exertion. General principles of treatment should be broken as conditions necessitate.

DR. R. T. MORRIS, New York: The response of the blood-pressure to certain proteins might be utilized as a test for arteriosclerosis in its early stages.

DR. A. D. BLACKADER, Montreal: While I cannot help agreeing to a certain extent with Dr. Fisher as to heredity, it is a depressing view. I prefer to think that some persons are more susceptible to certain poisons than others. Some children, for example, are poisoned by eggs. Such substances should be excluded from the diet of those susceptible to hardening of the arteries. Until the factors causing the disease are removed, treatment will prove unavailing. Treatment should be directed to the undue susceptibility of the tissues.

DR. O. T. OSBORNE, New Haven, Conn.: I wish to emphasize the danger of changing the diet too suddenly or radically. I have obtained good results from the use of potassium iodid.

DR. SPENCER L. DAWES, Albany, N. Y.: The salines or calomel are preferable to castor oil. The after-constipating effect of the oil is a decided objection to its use.

DR. GEORGE HERBERT EVANS, San Francisco: I have been impressed with the frequency with which syphilis occurs in arteriosclerotic patients. Cases ascribed to overwork, overeating, etc., are not infrequently the result of syphilis. The real causative factor should be ascertained before treatment is instituted.

DR. F. M. POTTENGER, Los Angeles: Typhoid fever is sometimes followed by hardening of the arteries. Some hardening is usually present in tuberculous patients after two years.

DR. J. J. KINYOUN, Washington, D. C.: In the post-mortem examination of tuberculous subjects I have found marked arterial changes in a considerable proportion of cases. These changes antedated the tuberculosis, however, and must be due to other causes.

DR. L. F. BISHOP, New York: In my experience no cause can be assigned in about nine-tenths of the cases. In the remaining tenth the cause is usually alcohol, syphilis or one of the other causes ordinarily cited. Too much attention is paid to the advanced cases and not enough to the insidious cases, although the latter are the most important. I do not believe in excluding all protein from the diet. Effort should be made to ascertain the particular protein causing the trouble and eliminate it. It is revealed by the special craving of the patient for it when it is withdrawn. Table salt and all other salines are unfriendly to arteriosclerosis.

Current Developments and Problems in Vaccine Therapy

DR. A. PARKER HITCHENS, Philadelphia: The limitations which at present characterize the treatment of infections by vaccines are not permanent and further investigation will result in a wide extension of their field. Mixed vaccines are often of service in the common acute, subacute and chronic catarrhal inflammations of the respiratory mucous membranes. The most promising field of study for the laboratory man to-day is the relation of the infecting bacteria to the blood and lymph-supply—the possibility of bringing the antibodies formed as a result of the injection into contact with the infecting bacteria.

DISCUSSION

DR. J. J. KINYOUN, Washington, D. C.: My experience with mixed vaccines has been unsatisfactory. The secret of success lies in determining the cause of infection in each instance as nearly as possible, and acting accordingly.

DR. A. P. HITCHENS, Philadelphia: A hodgepodge or shotgun vaccine cannot be condemned too severely; but in some cases of mixed infection the indications are clear, and mixed vaccines can be used to advantage.

Recent Improvements in the Quinin Treatment of Lobar and Lobular Pneumonia

DR. S. SOLIS-COHEN, Philadelphia: Apart from fresh air, dependence has been placed on the following measures: first, the effective use of the very soluble hydrochlorid of quinin and urea in 50 per cent. solution by intramuscular injection; second, the hypodermic injection of cocain hydrochlorid solution or an extract of the posterior lobe of the pituitary body for the maintenance of blood-pressure; third, in cases of prolonged fever, delayed resolution or tardy convalescence, the injection of bacterins (pneumococcus or mixed vaccines, autogenous or stock). No invariable maximum limit has been fixed for the number of injections of quinin or of pituitary liquid, but it is not wise to continue the three-hourly injections beyond the first twenty-four hours, and in only a few cases has it been necessary to use them as long as this. Other measures should be employed according to indication. The treatment has reduced the mortality in the severe cases one-half, and the relief afforded in all cases is remarkable.

DISCUSSION

DR. T. F. RILEY, New York: Statistics as to the prevalence of pneumonia are somewhat unreliable and I am inclined to doubt whether there has been any notable increase in the proportionate number of cases as suggested by Dr. Cohen. Quinin has been found to be a dangerous drug for hypodermic use. It has given rise to tetanus in a number of cases, even when given carefully and under antiseptic precautions. In explanation it has been suggested that the tetanus spores existing in the patient, otherwise innocuous, are aroused to activity by the injection. At any rate, the procedure has not been found free from danger, and it is well to bear this in mind in deciding on the injection treatment. I have obtained good results from the use of large doses of digitalis. Of late I have employed acetylsalicylic acid in combination with it.

DR. O. T. OSBORNE, New Haven, Conn.: I do not know of any one "best treatment" for pneumonia. The treatment should always be adapted to meet the needs of the individual patient. Whether or not digitalis should be employed depends on the circumstances. I am opposed to employing it in every case as a routine practice. Its injudicious use has done serious harm in more than one case of pneumonia. When properly given it acts perfectly. Quinin raises the blood-pressure, but its use is followed by a secondary reaction, and I am averse to giving a drug of this kind. The use of the blood-pressure apparatus in private practice has its drawbacks. Among other things it disturbs the patient and makes him nervous, and it is doubtful whether the information obtained by its use makes up for the disadvantages. About all that is necessary to know can be learned with the finger.

DR. ALBERT E. ROUSSEL, Philadelphia: It is important to watch the blood-pressure rather than the temperature in pneumonia. A pulse of from 130 to 140 means a failing heart and low blood-pressure, and the chief indication is to raise the pressure. I have considerable faith in digitalis in these cases. If it fails, pituitary extract or some other drugs mentioned can be used. I have recently used the treatment described by Dr. Solis-Cohen in five cases of pneumonia with good results. The measures to be employed depend on the conditions present in each individual case.

DR. G. H. EVANS, San Francisco: The results obtained in the first case that I treated by Dr. Solis-Cohen's method were

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so satisfactory that I have subsequently employed it in others. The pituitary liquid gave a prompt increase in blood-pressure. There is, however, no one successful treatment for pneumonia. The majority of cases went steadily on to termination in spite of any treatment that might be employed.

DR. F. M. POTTENGER, Los Angeles: The examination of tuberculous subjects has led me to believe that the time required for resolution is much longer than is ordinarily supposed. If the disease is due to bacterial invasion and the proper vaccine can be used, there should be a shortening in the length of the attack and in the time required for resolution. Success in treatment is chiefly due to individualization and the observance of minutiae.

DR. R. T. MORRIS, New York: The invasion of the influenza bacillus may account in part for the increase in the number of cases of pneumonia observed in recent years. Whatever method of treatment is employed, it should be given with confidence.

DR. S. SOLIS-COHEN, Philadelphia: I have not had a case of tetanus in over 5,000, possibly 10,000 injections. The element of confidence is undoubtedly of the highest importance. The increased mortality of the disease in later years is partly due to the wave of therapeutic nihilism that has spread over the world. Many of the patients might have recovered if they had been under the care of some one who had confidence in his own treatment. Under the treatment I have described, defervescence usually occurs by lysis rather than by crisis. This, and the great relief afforded by the quinin, without corresponding change in the pulmonary condition, indicates that the treatment is antitoxic in character. It would seem as though pneumonia poison and the quinin counteract or neutralize each other; but there is no one treatment for all cases; in individualization lies the key to success.

Pulmonary Syphilis

DR. ALBERT E. ROUSSEL, Philadelphia: My patient was a colored woman, single, aged 24, with family history negative as to tuberculosis. Six weeks before admission there had appeared chills, fever, drenching sweats, cough with offensive mucopurulent expectoration and rapid loss of weight. Temperature for weeks reached 106 F., and occasionally it would fall as low as 96.2 F. Sputum negative. Percussion showed scattered but distinct areas of dulness over both lungs, particularly at right base; both apices were hyperresonant, free from râles and the seat of supplementary or puerile breathing; breathing was bronchovesicular and bronchial over the dull areas; vocal resonance was increased; there were subcrepitant râles. Wassermann test was positive. Two months later a gumma developed, and a history of syphilis was obtained. Under vigorous treatment with mercurials and potassium iodid there was almost immediate improvement and rapid recovery.

DISCUSSION

DR. THOMAS E. SATTERTHWAITE, New York: At various times I have tried to bring up a discussion on this subject. At first I could hardly get any one to believe that there was such a disease as syphilis of the lungs. The cases were thought to be instances of pulmonary tuberculosis. The chief difficulty is in the differential diagnosis. The rapid improvement under antisyphilitic treatment and a positive blood-reaction are significant aids.

DR. F. M. POTTENGER, Los Angeles: The absence of tubercle bacilli is not conclusive evidence. Some tuberculous patients rarely present bacilli in the sputum. Whenever I suspect syphilis, I employ antisyphilitic treatment in addition to antituberculosis treatment. I have used potassium iodid in many cases of pulmonary tuberculosis with beneficial effect.

DR. O. T. OSBORNE, New Haven, Conn.: Potassium iodid is of value from a diagnostic point of view. It is contraindicated in many cases of pulmonary tuberculosis. If, however, there are no tubercle bacilli in the sputum it can be given, and if, afterward, bacilli are found, the diagnosis is clear. The iodid seems to increase the number of bacilli thrown out in the sputum. It is liable to stir up the pulmonary condition in incipient cases and make matters worse. In chronic cases the effect is somewhat similar, but it enables the patient to expel the bacilli.

A Case of Influenzal Meningitis in the Adult Complicated by Pneumonia; Recovery

DR. THOMAS E. SATTERTHWAITE, New York: The case was somewhat unusual in that it presented three types of grippal infection, the respiratory, the gastro-intestinal and the nervous. It is, so far as I know, the only recorded instance of full recovery in influenzal meningitis. The patient was a man aged 25, of normal physique. There had been the usual symptoms of a mild influenza. When first seen he was unconscious, with pupils irregularly dilated and irresponsive, and the breathing rapid and labored. Temperature 103.5 F., pulse 138, respirations 26. Under bromids consciousness returned, but there was restlessness and twitching of right leg and facial muscles. On the second day the signs of pneumonia were easily recognizable; temperature 106 F., pulse 120, respiration 40. Three hundred grains of bromids were given during the day. On the third day there were nausea and vomiting, and on the fourth, vomiting of dark fluid and blood. Calomel, 1 grain in divided doses; hexamethylenamin, 10 grains in a pint of water, 30 grains in all during the day, and strychnin sulphate, 1/60 grain every four hours, were administered. On the sixth day there was low muttering delirium; bromids were given freely and hexamethylenamin suspended. On the seventh day, camphor, 3 grains in aseptic oil, was administered hypodermically every six hours. Strychnin was continued. Temperature had fallen to 99 F., pulse to 84 and respirations to 24. On the tenth day camphor was suspended. From this time on recovery was rapid and uneventful.

DISCUSSION

DR. F. E. STEWART, Philadelphia: Some authorities recommend the use of camphorated water instead of the oil: I should like to see more study along this line.

DR. H. B. ANDERSON, Toronto: I have seen two cases of meningitis due to infection. A student had suffered for some years with ear trouble, but of late it had been quiescent. He became ill with grip and soon developed violent headache, restlessness and delirium, and died after a few days. A woman, aged 45, became ill with influenza of the ordinary type; while she was improving there suddenly developed marked symptoms indicative of meningitis, and she died after a few days. Lumbar puncture failed to disclose the organism.

The Medical Treatment of Cholelithiasis

DR. H. B. ANDERSON, Toronto: While surgical procedure is frequently the best, and often the only, means of offering a chance of relief, its advocacy based on certainty of cure and assurance of non-recurrence is unwarranted. The object in view can often be obtained by non-operative treatment, especially in early and mild cases, and particularly after the first attacks, before serious local damage has been done by the infection. Medical treatment should be given when the patient's physical condition does not warrant operation, when operation is refused, as a preliminary to operation, and in all cases after operation to prevent reinfection and recurrence, if possible.

Scarlet Red in Ulcer of Stomach and Duodenum

DR. JULIUS FRIEDENWALD, Baltimore: Scarlet red is a useful adjuvant in the treatment of gastric ulcer. While it cannot replace the usual forms of treatment, when administered with them it increases the beneficial effect. It is particularly serviceable in the treatment of ambulatory cases. It does not interfere with the administration of other remedies, and, indeed, the effect of its combination with the alkalies or belladonna is at times most beneficial. Thirty-seven cases treated with scarlet red were subacute. It is not a specific but it was a useful adjuvant.

The Dangers and Disadvantages of Spinal Anesthesia

DR. W. WAYNE BABCOCK, Philadelphia: Ether for general use remains the standard anesthetic in spite of its many dis-

advantages; the newer methods of anesthesia have a use restricted to those who have particularly qualified themselves; spinal anesthesia is dangerous in myocardial degeneration, particularly with obesity, and it should be used with care and avoided in grave shock and hypotonicity of the vasomotor system; severe headache and abducens palsy might follow the use of improperly prepared solutions or a faulty method; excessive dosage, high point of injection, improper position or handling of the patient, might be followed by respiratory or circulatory arrest. If the patient cannot be watched constantly for an hour after the injection, or if the operator is not familiar with the technic or is unprepared to meet the emergencies, spinal anesthesia should not be used.

AMERICAN ORTHOPEDIC ASSOCIATION

Twenty-Seventh Annual Meeting held in Washington, D. C., May 6-8, 1913

(Concluded from page 1818)

Importance of Positive Support in the Curative Treatment of Weak Feet

DR. ROYAL WHITMAN, New York: In 1890 97 cases of flat-foot were mentioned in the report of the Hospital for Ruptured and Crippled; in 1906 there were 1,219, and in the last report there were 2,109. Flat-foot is an acquired weakness and is understood to be preventable and curable. The lowered arch is the secondary and not the primary deformity. Palliation is often mistaken for cure. I have a brace which I have used for several years with success. A brace that will not only prevent deformity, but the predisposition to it, and will enforce a proper attitude in walking, may be regarded as a most important measure in curative treatment. The most satisfactory material for this brace is thin polished steel, galvanized. The essential accompaniment of positive support is a proper shoe, inclined somewhat outward by thickening the inner part of the heel and sole. The aim of treatment should be to cure, rather than to relieve flat-foot.

A Rapid and Accurate Method of Taking Casts of the Feet

DR. MICHAEL HOKE, Atlanta, Ga.: This procedure has done away with the disadvantages of the older methods. I take plaster bandages and soak them in water, flattening them out on the table, thus making a square plaster splint 4 inches wider than the foot, and 2 inches longer. Then with a pair of scissors I cut the edges, lay the splint on the foot, and hold the foot with my hand in the position in which I wish it to be. I then wind an ordinary gauze bandage round the plaster and the foot, to hold the plaster while it is hardening. After it is hardened the foot is taken out of the cast.

DISCUSSION

DR. ROBERT B. OSGOOD, Boston: We can all agree with the principles enunciated by Dr. Whitman, but the question of the practicability of the method must be faced by us all. If we cannot make a permanent brace, we must use Dr. Whitman's appliance; but I feel that whenever possible we should relieve our patients from the burden of steel.

DR. W. E. BLODGETT, Detroit: My experience has been that the best pain-relieving plate is one that is arbitrary. The plate I make is in no sense a curative plate, but one to relieve pain. The point as to whether or not the Whitman plate is a curative one must be decided either practically or theoretically. From the practical point of view I cannot speak. Theoretically, however, arguments can be urged against the assumption that it is curative. I cannot see that this plate can be expected to strengthen the muscles. If it is not curative, why should we permit its use?

DR. H. AUGUSTUS WILSON, Philadelphia: I have endeavored to establish a standard of what is natural in an unclothed foot. On examining the feet of a number of savages, I found that they all stood flat-footed, with the feet pronated in the position which I had believed necessitated mechanical support; yet they had superb musculature, and capabilities beyond conception. It seems that we are considering a theoretical foot when we apply therapeutic measures. If we can get in our minds a standard natural foot, we shall have something to build a superstructure on. The Japanese have fine feet. They walk without heels, and the result is that the flexors are strong and powerful. They walk with their toes in and have wonderful foot capabilities; and yet, when standing, they are apparently flat-footed. What we are after is not the physical resemblance of a foot, but a physiologic action.

DR. PHILIP HOFFMAN, St. Louis: The question is whether or not the relationship between the shape or form, and the function of the foot is a definite one. I have made observations on 400 primitive subjects, bare-footed and wearing sandals, and I have found the same lack of relationship between the form and the function of their feet, in which the arches were very low. We are taught that this low arch should predispose to weakness; yet, in not one of these natives had any symptoms of weakness ever been present. Then I tried about 200 white men, shoe-wearers, who had never had foot symptoms, and I found about the same percentage of low arches in these symptomless feet. Then I examined a number of symptomless negro feet with the same result. I was therefore convinced that there is no definite relationship between the shape of the foot and the function of that foot.

DR. CHARLETON WALLACE, New York: I classify the types of feet that happen to come into my office. The first class—mild cases that show no symptoms of pain—can easily wear the Whitman brace with more or less pain. The brace, the shoe and the exercise give perfectly satisfactory results. The second class—cases in which the peroneal spasm is rather strong—must be treated to overcome the spasm before the Whitman brace can be used. The third class—the rigid, stiff feet—must be made flaccid before the brace can be worn. We do not expect the Whitman brace to cure the foot; but it aids toward that end. Our whole aim is to cure the foot by stretching the muscles, giving the foot a crutch, as it were, to walk on while being corrected.

DR. E. H. ARNOLD, New Haven, Conn.: Within the experience of all of us, the American sidewalk has changed from a soft to a hard one. In a soft walk the foot shapes the ground; but with an unyielding one, the sidewalk shapes the foot. You will find that the Indian, the colored man or the Japanese will go to pieces on our sidewalks and contract flat-foot. Walking on hard ground is one of the etiologic factors in flat-foot, and goes far to explain the great increase in this condition. The question is how far any plate will cure flat-foot in these conditions.

DR. ARTHUR H. CILLEY, New York: The results obtained from treating flat-foot do not depend on the form of treatment, but on the ability of the man to do the work. If the patients will use the muscles, they will recover. If the Whitman plate is properly applied they cannot help using these muscles.

Heliotherapy (of Rollier) as an Adjunct in the Treatment of Bone Disease

DR. ROLAND B. HAMMOND, Providence, R. I.: Heliotherapy of sinuses has been practiced for many years. Rollier's method of exposing the entire body is comparatively new. Experiences differ in a high and dry climate, and in a low, foggy land. I believe that heliotherapy is of marked value in the treatment of bone disease by stimulating the recuperative powers of these parts and shortening the course of the disease. It can be used at the seashore as well as in a high altitude. Sinuses tend to close more quickly with its use than without treatment. Combined with sea bathing and outdoor life, it is a most valuable addition to our treatment.

DISCUSSION

DR. B. E. MCKENZIE, Toronto: I have had a large experience along this line of outdoor treatment. We do not expose our patients to the sun for so long a time, nor do we expose the entire body. It would probably be better if we did. I believe that the time of treatment essential for the cure of

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tuberculous joint disease is reduced 50 per cent. by the method we follow. The number of abscesses is reduced also.

DR. ROLAND B. HAMMOND, Providence, R. I.: For many years we have been treating the sinuses by exposing parts of the body; but according to Rollier's theory we must expose the whole body. We have done this and consider it a distinct advantage.

The Use of Oil Injections into the Knee-Joint by the Method of Open Incision

DR. E. G. BRACKETT, Boston: The injection should be made by open incision, and not by puncture. The fluid is always left in the joint under tension. Any adhesions existing should be broken up before the joint is filled with oil and the capsule closed. No handling should be permitted, particularly of tuberculous joints. Fixation in plaster or by splint immediately afterward should never be employed. It is doubtful if the final results in a disease so insidious can be given until a very long time has elapsed. An apparent cure, however, has resulted in three cases which have stood the test from a year and a half to two and a half years. The procedure is of use only in cases in which the abnormal condition is confined to the synovial membrane.

DISCUSSION

DR. E. W. RYERSON, Chicago: I use white petrolatum only in dealing with dry joints, as some patients have a painful idiosyncrasy toward yellow petrolatum. I have used it in cases of gonorrheal inflammation of the knee-joints in which the capsule was beginning to contract.

DR. L. W. ELY, Denver: The absence of fluid in ankylosed joints is not the cause of the disease, and I think that it is receiving more attention than it should. There is no way by which to tell a tuberculous joint, except by demonstrating the tubercle bacillus, and even then mistakes are sometimes made. You cannot cure these stiff joints by injecting an oily substance into them.

DR. E. W. RYERSON, Chicago: Nothing has been said about curing these joints with petrolatum; but the injection relieves them so much that, by increased motion, the natural synovial secretion returns.

DR. J. T. RUGH, Philadelphia: For cases of distinct infection, in which the germ can be recovered from the joint cavity, I want to mention the glycerin-formaldehyd solution, which has distinct value in these cases.

DR. E. G. BRACKETT, Boston: One of the most difficult things is to distinguish between mild tuberculous infections and other forms of arthritis. Many times I have found my diagnosis reversed after operation. We should imitate Nature, so far as possible, in treating this disease. In making these injections we imitate her.

A Method of Osteotomy of the Lower End of the Femur in Cases of Permanent Flexion of the Knee-Joint

DR. ROBERT B. OSGOOD, Boston: In fracture of the knee-joint a cuneiform osteotomy of the lower end of the femur, as near the joint surface as possible, would seem to be the operation of choice. Unless a wedge of bone is removed the tension on the vessels and nerves is often too great to allow complete straightening, even if the hamstrings are divided. I have devised an apparatus to overcome the difficult features. I use an ordinary jig-saw. Paper patterns are made in order to determine the proper dimensions of the wedge of bone to be extracted. When the posterior cortex has been partially sawed through the arms of the saw are removed, leaving the saw-blade in as a mark for orientation. Then a second saw with blade, teeth downward, is used to make a cut on a straight line down to the position of the first saw and both blades are removed. Thus a quadrilateral portion of bone is freed and pushed out. In our case union has apparently been formed in from four to six weeks.

DISCUSSION

DR. W. S. BAER, Baltimore: I have used Dr. Osgood's method in one case, and have had extremely satisfactory results. There are certain things in regard to the technic of an anthroplastic operation which should be followed. The membrane wants to be sewed in very carefully around the joint. The passive motion after-treatment should not be started too early. Three or four weeks of absolute rest with fixation in plaster should be given.

DR. J. P. LORD, Omaha: Dr. Osgood has greatly refined an operation which I have been doing for four or five years. My operations were done to prevent the patients from having bent knees from contracture deformity, the result of infantile paralysis.

DR. A. H. FREIBERG, Cincinnati: There are two distinct propositions to consider in these cases. The first is the amount of bone that has to be removed, and the second, the character of the joint. In the knee, we have a joint whose mechanical control is ligamentous. If we get a pseudoarthrosis, it is uncontrollable if there is considerable motion.

Foerster Operation

DR. S. J. HUNKIN, San Francisco: In all I have had eighteen operations on fifteen patients. In the entire series there were but two deaths. Therefore I may say that the results of the treatment of spastic paralyses by Foerster's operation have been fairly good. While they have not been so entirely satisfactory in all respects as I had been led to expect, yet all my patients showed greater improvement than I formerly attained with other procedures.

DISCUSSION

DR. J. K. YOUNG, Philadelphia: Two of these cases came under my observation; one was a cervical, the other a lumbar case. Neither was operated on by me. The operation on the first was unsuccessful, and the second patient was made worse by it.

DR. G. G. DAVIS, Philadelphia: I might mention a third operation done by the same surgeon who operated on the two patients referred to by Dr. Young. The patient was a boy of 14, and his condition was markedly improved. He is still alive.

DR. S. J. HUNKIN, San Francisco: The shock in this operation is in proportion to the time taken to perform it. After my first attempt, I have never taken over forty minutes, and I believe that it can be done in thirty.

Relation of Trauma to Bone Tuberculosis?

DR. H. AUGUSTUS WILSON, Philadelphia: The greatest confusion exists as to trauma causing bone tuberculosis. It is important that the conflicting statements should be analyzed. If severe injuries do not cause bone tuberculosis, why do trivial ones? What is trivial trauma? Formerly, sprains were considered trivial; now the roentgenograph has proved that in many instances sprains are, in reality, fractures. Trauma is not considered a cause of tuberculosis in other structures than bone.

DISCUSSION

DR. JAMES K. YOUNG, Philadelphia: Coming from such eminent authority, the statement that trauma has nothing to do with bone tuberculosis may be misleading. Most authorities believe that trauma has something to do with the production of tuberculosis in the joint.

Neglected Infantile Paralysis

DR. WALLACE BLANCHARD, Chicago: Paralytic club-foot is the most frequent deformity. Its prevention gives far better ultimate results than can possibly be obtained by any of the operative and mechanical treatments. The large number of paralytic club-feet seen in every large clinic emphasizes the vast amount of neglect in these cases.

DISCUSSION

DR. C. L. STARR, Toronto: My colleague, Dr. Gallie, is largely responsible for the splendid work we are doing along this line. Take a case of talipes, for instance, instead of putting the silk in and attaching the Achilles tendon to the heel, we flex the foot to a right angle and split the periosteum at the tibia sufficiently to place the Achilles tendon in it. Fastening it in there pulls the foot absolutely into the posi-

tion of straight-foot and achieves the result. This method is adapted to almost any type of paralytic condition.

DR. WALTER TRUSLOW, Brooklyn: The use of a long plaster-of-Paris dressing from the upper third of the spine to the toes acts automatically in overcoming these contractions to the hip flexors and abductors.

DR. E. G. ABBOTT, Portland, Maine: I have made muscle transplantation in many hundreds of cases, and in the majority I have had success, particularly in connection with the foot. I have never had any trouble in getting proper alignment of the bone.

DR. R. E. SOULE, New York: I have lately developed what I believe to be a very advanitageous procedure for the treatment of the joint in acquired valgus of the foot. We can restore the foot almost absolutely by anchoring it to the astragalus. I have been able by this method to remove all supports or correcting apparatus, and the patients have had only a slightly perceptible limp.

DR. B. E. MCKENZIE, Toronto: I tried the method spoken of by Dr. Truslow, without success, in a case a few months ago; later I made an extensive section of the muscles in the front by an open incision, keeping the child recumbent with the lordosis fully corrected in plaster until the healing had occurred. Since then I have followed this practice exclusively, and have had good results.

DR. A. H. FREIBERG, Cincinnati: I believe that we are much too precipitate in our determination to operate in neglected cases of this disease. I do not decide on a tendon transplantation, particularly in the lower extremity, until from four to six months of mechanical and massage treatment have been gone through with.

DR. WALLACE BLANCHARD, Chicago: The orthopedic surgeon should be called in early in cases of infantile paralysis, and the prevention of these deformities will be a matter that will be accomplished.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Albany (N. Y.) Medical Annals

May, XXXIV, No. 5, pp. 253-316

1 Obituary Sketch of William Hailes. A. Vander Veer, Albany, New York.
2 Bender Hygienic Laboratory. H. S. Bernstein, Boston.
3 Hospitals and Sanatoria for Tuberculosis. W. S. Mills, New York.
4 Defective Delinquent. F. L. Christian, Elmira, N. Y.
5 Three Cases of Diphtheria from Carrier. H. P. Sawyer, Troy, N. Y.

American Journal of Anatomy, Philadelphia

May, XIV, No. 4, pp. 411-599

6 Fasciculus Cerebrospinalis in Albino Rat. S. W. Ranson, Chicago.
7 *Development of Membrana Tectoria with Reference to Its Structure and Attachments. C. W. Prentiss, Chicago.
8 *Chromosomes in Man. H. L. Wieman, Cincinnati.
9 Spermiogenesis of Pribilof Fur Seal (Callorhinus Alascanus J. and C.). J. R. Oliver, San Francisco.

7. **Development of Membrana Tectoria.**—The researches made by Prentiss have convinced him that the membrana arises as a thin cuticular plate which is first developed over the free ends of the columnar cells which form the greater (inner) epithelial thickening of the basal cochlear wall. As it is present in fetuses of 5 cm., before the development of the hair cells in the spiral organ, it cannot be regarded as developed from these hairs. The greater epithelial thickening gives rise to the epithelium of the labium vestibulare, to the lining of the spiral sulcus and to the inner half of the spiral organ (inner supporting cells, and probably to the inner hair cells and inner pillars). The lesser epithelial thickening forms the external portion of the spiral organ. The membrana grows in thickness by the secretion of a cuticulum formed between the ends of the epithelial cells, rapidly at first over the cells of the greater epithelial thickening (5 to 13 cm. stages), later over the cells of the lesser epithelial thickening.

In sections through the axis of the cochlea the membrana has a striated or lamellated appearance. The striae curve outward and downward from the labium vestibulare where the membrane remains thin. In sections perpendicular to the lamellae the structure of the membrana is that of a reticulum with thickenings at the angles of the meshes. It is therefore neither lamellar nor reticular but a chambered structure or "honeycomb" of hollow tapering cuticular tubes or chambers normally filled with a fluid resembling the endolymph. The bases of the chambers during development rest between the ends of the epithelial cells. The thickenings at the angles of the meshes of the reticulum extend lengthwise along the whole extent of the tubes or chambers and in sections through the axis give the membrane its striated appearance, the striae having been variously interpreted as hairs, cilia, fibers and lamellae. As the nasal epithelium increases in width its cells are carried outward, away from the modiolus. This carries the bases of the growing cuticular chambers outward also, though their tips remain stationary. The result is the inward inclination of the chambers as they are followed from base to tip.

The chambered structure of the membrana explains the "border-plexus" of Lowenberg, the accessory tectorial membrane observed by Hardesty, and the "reticular structure" of the membrana described by various investigators. In fetuses of 18.5 cm., the membrana in the upper turns of the cochlea projects outward beyond the spiral organ and is firmly attached to the cells of both the spiral organ and of the greater epithelial thickening. In this turn the spiral sulcus has not yet fully formed and the distance from the inner angle of the cochlea to the pillars is fully as great as in the preceding stage. Thus the position of the membrana cannot be ascribed to an inward shifting of the spiral organ, but is due to its rapid development from the cells of the spiral organ. The attachment of the membrana to the spiral organ was proved not only by sections but by dissections of both fresh and fixed cochleae. Between stages of 15 and 25 cm., the inner cells of the greater epithelial thickening change from a high pseudostratified columnar type to that of a simple cubical epithelium. These cells lose their attachments to the membrana and the space which as high columnar cells they occupied, becomes the spiral sulcus. The change is brought about by the degeneration of many of the cells and the transformation of those remaining.

In sections of the cochlea at full term the membrana was found attached to the inner supporting cells of the spiral organ and to the outer hair cells as well as to the labium vestibulare. This attachment is regarded as normal because it was indicated by dissection of fresh cochleae; because in development it is so attached; because the attached membrane when shrinking under the action of reagents exerts such a pull on the spiral organ as to distort it. Lastly, because physiologically and anatomically it is the condition which we should expect to find if the membrana is functional in transmitting sound waves to the auditory hairs. Although usually described as lying above, the normal position of the membrana may be directly beneath the spiral organ. As it is slightly heavier than the endolymph, if unattached it would float free especially when actively moved or jarred. This would interfere seriously with the function of the organ.

Reasons why the membrana detaches itself from the spiral organ more readily than from the labium vestibulare are as follows: (a) The outer portion of the membrana being chambered shrinks much more than the inner zone which is a solid cuticular plate; (b) shrinkage of the outer zone affects not only the width but the length of the membrana; (c) being a spiral structure, the decrease in length decreases the diameter of the turns, thus drawing the membrana inward. This would tend to separate it from its outer attachment to the cells of the spiral organ. The arguments against regarding the basilar membrane as a medium for transmit-

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ting sound waves to the hair cells, do not hold for the membrana tectoria. The membrana tectoria is a delicate chambered cuticular structure, co-extensive with the spiral organ. It is attached by its inner zone to the labium vestibulare by its outer zone between the cells of the spiral organ, thus bridging over the spiral sulcus. Its sectional area at base and at apex is as 1:40 approximately. As the hairs of the auditory cells project directly into the chambers of the membrana, vibrations of the membrana would be directly transmitted to them. As the membrana is much thinner and narrower in the basal turns than in the apical region it is probable that different portions of it respond to sounds of different pitch. In this sense it may act as a resonator.

8. **Chromosomes in Man.** — Wieman describes somatic mitoses in which thirty-three, thirty-four and thirty-eight chromosomes occur. In addition to these he has observed other cases in which the number is thirty-four. In still other instances, he says, it is impossible to state the number with certainty, but careful examination of several scores of mitoses leads him to believe that the number thirty-four approximates the one that occurs most frequently in the cells of the embryo under consideration. The work of Duesberg, Guyer, Branca and Gutherz indicates that the premitotic number is about twenty-four, and that the first spermatocyte metaphases contain one-half this number. Wieman's studies show clearly that in a human embryo the somatic mitoses display chromosomes in a number so much larger than this approximate premitotic one, that the two numbers can not be the same. One may not always be able to determine with exactness the number of chromosomes, but when the number observed in a great many cases is ten more than the expected average, the values in the two cases must be different. While it appears that the somatic number in man, though not a constant one, perhaps, is different from the spermatogonial number, Wieman would not overlook the results of Moore and Arnold who observed sixteen bivalent chromosomes on the first spermatocyte spindle. The diploid number, thirty-two, would be one closely approaching the number found by him in the somatic cells.

Boston Medical and Surgical Journal

May 29, CLXVIII, No. 22, pp. 785-824

10 Protection of Milk. E. M. Buckingham, Boston.
11 Control of Careless and Incorrigible Consumptive. M. W. Richardson, Boston.
12 Efficient Boards of Health. R. N. Hoyt, Boston.
13 *Open-Window Schoolrooms. A. G. Rice, Springfield, Mass.
14 Control of Careless and Incorrigible Consumptive. C. T. Callahan, Holyoke, Mass.
15 *Frequency of Transition of Ulcer of Stomach into Cancer. J. Friedenwald, Baltimore.
16 *Tuberculous Osteomyelitis of Digits. R. M. Green, Boston.

13. **Open-Window Schoolrooms.**—The open-air school from Rice's point of view is not the last word. Conceived with but a single object in view, instituted with impulsive enthusiasm and developed not step by step, but at a single bound, he says that its possible consequences along lines other than hygienic were not foreseen. Moreover, even from a hygienic standpoint, experience with the innovation has brought forth something of a shock, for it has not proved to be the panacea for the physical ills of schoolchildren that was confidently hoped for. Certain children have not only failed to derive benefit from it, but have even suffered harm; and its application has had to be restricted. Sober, second thought has disclosed that the failure to regard possible consequences of the innovation along lines other than hygienic has been disastrous for its continuance as a valuable public institution. From an economic standpoint the open-air school is a poor investment; from an educational point of view it is a step backward, and from a moral standpoint it is unwise. It would seem necessary, therefore, to recede a bit from the perilously advanced position that has been taken and the next step backward is the open-window schoolroom. Its hygienic value is an accepted fact; economically it demands a minimum of expense and affords equal advantages for all; educationally it keeps step with progress, and morally it has nothing to condemn it.

15. **Transition of Ulcer of Stomach into Cancer.**—In a study by Friedenwald of 1,000 cases of cancer in which careful records have been kept, there was a history of some previous digestive trouble in 232 cases (23.2 per cent.). Of the 232 cases 109 had slight attacks of indigestion for a period of five years or more preceding the present gastric disease, while twenty-five had slight attacks only during the last five years preceding the present disease. Of the remaining 123 cases, thirty-two had chronic indigestion more or less all of their lives, of which twenty-nine had chronic indigestion mainly during the last five years preceding the present illness. Seventy-three cases gave a definite history of former gastric ulcer. It is therefore evident that in the 1,000 cases, but 23 per cent. present a history of any previous digestive disturbance whatever, even in the slightest degree, and that but 7.3 per cent. give a direct history of ulcer. If, therefore, all of the former digestive disturbances be considered as due to ulcer, the formation of gastric cancer from ulcer could not have taken place in more than 23 per cent.; if all of the cases with slight digestive disturbances be disregarded in this series this percentage is reduced even to 12.3 per cent. Friedenwald therefore maintains, notwithstanding the sweeping statement of Wilson and MacCarty that "109 cases (71 per cent.) which present pathologic evidence, gross and microscopic, that is, large ulcers with scar tissue centers and overhanging borders, deep in the bases of which cancer is present, in almost every instance have unmistakably originated on the lesser curvature of the stomach, the usual site of gastric ulcer. Further, almost every case gives a clinical history of gastric ulcer for a long period of years preceding the relatively short period when the history became that of gastric cancer," that from a study of his own cases from a clinical point of view, as well as from the pathologic studies of Aschoff, these figures are far too high, and that while he believes that gastric ulcers are at times transformed into malignant growths, he does not believe that this change takes place in more than 23 per cent. of cases and probably in not even so large a proportion.

16. **Tuberculous Osteomyelitis of Digits.**—Tuberculous osteomyelitis of the digits Green regards as essentially a disease of infancy and childhood, presenting a definite clinical picture and tending strongly to spontaneous recovery. Pathologically it is characterized by bone destruction and rarefaction and by chronic inflammatory reaction in the surrounding soft tissues. It may heal by resolution and absorption, or by sequestration, suppuration and sinus formation. Its differential diagnosis from pyogenic osteomyelitis, sarcoma and syphilitic dactylitis may be made by clinical signs and Roentgen ray examination. Its prognosis for anatomic and functional recovery is good and is proportionate to the amount of bone destruction and scar-formation. Therapeutically primary emphasis is laid, Green says, on general hygiene and local fixation. Incision should rarely be resorted to, since it complicates the dressing, protracts convalescence and increases subsequent deformity and disability. Amputation, he says, is almost never indicated. Probably treatment with the Roentgen rays, or other forms of irradiation, is a valuable adjunct to the conservative therapeutic measures above described, since it expedites recovery by stimulating natural reparative processes.

California State Journal of Medicine, San Francisco

May, XI, No. 5, pp. 173-210

17 Summer Diarrhea from Standpoint of Clinician. E. C. Fleischner, San Francisco.
18 Relation of Academic Medical School to Medical Community. H. C. Moffitt, San Francisco.
19 *Treatment of Spiral Fractures of Tibia. C. G. Levison, San Francisco.
20 A Physician's Vacation. D. W. Montgomery, San Francisco.
21 Acute Poliomyelitis in California. F. F. Gundrum, Sacramento.
22 "Impressions." H. J. Kreutzmann, San Francisco.
23 *Staphylococcus Spray for Diphtheria-Carriers. J. Fay, Berkeley.
24 Case of Sarcomatosis. J. H. O'Connor and W. T. Cummins, San Francisco.
25 Management of Typhoid. G. R. Carson, San Francisco.

19. **Treatment of Spiral Fractures of Tibia.**—Spiral fractures of the tibia, Levinson says, should be treated conservatively and if satisfactory approximation after tenotomy of the tendo Achilles has not been obtained after attempts have been made and controlled by the Roentgen ray over a period of four days, then surgical intervention should be resorted to; four days should be the limit, for after this time operation becomes more difficult. Operation should be performed with "Esmarch," which permits it to be done by instruments alone, for in this particular condition the gloved hands should not be introduced on account of the sharpened ends of the bone, which may perforate the rubber glove, thereby increasing the danger of infection. In compound spiral fractures of the tibia the lower end of the upper fragment should be chiseled off as soon as the danger of infection has passed and the skin united, thereby converting the compound fracture into a simple fracture and materially shortening the period of convalescence. In the laboring man no attempt should be made to treat this fracture without operation.

23. **Staphylococcus Spray for Diphtheria Carriers.**—An investigation was undertaken by Fay to make a comparison of the values of sprays of *Staphylococcus aureus* culture and of a mild antiseptic solution in the treatment of the noses and throats of diphtheria carriers. The length of time necessary to cause diphtheria bacilli to disappear from the throats of carriers by the use of sprays of *Staphylococcus aureus* or of dilute antiseptics was sufficiently long to suggest that there was no decided antagonism, under the conditions of treatment, between either solution used and the diphtheria bacillus. The difference between the effects of the staphylococcus spray and of the control spray suggested a slight advantage for the staphylococcus spray. Treatment of diphtheria carriers with sprays of staphylococcus culture or of antiseptic fluids, Fay says, should be continued for several weeks after the last positive culture has been obtained. It is highly desirable that further search be made for a method of treatment which will be promptly efficacious in ridding the throats of diphtheria convalescents and carriers of their infection.

Indiana State Medical Association Journal, Fort Wayne

May, VI, No. 5, pp. 201-254

26 Abdominal Calamities. G. G. Eckhart, Marion.
27 Rheumatism and Its Kind; Classification and Diagnosis. L. A. Bolling, Kramer.
28 Prostatectomy in Aged, with Report of Two Successful Cases Ninety Years of Age. H. A. Moore, Indianapolis.
29 Myelocytic Leukemia. B. G. Keeney, Shelbyville.
30 Simple Method for Intravenous Administration of Neosalvarsan. J. R. Thrasher and B. Erdman, Indianapolis.

Journal of Abnormal Psychology, Boston

May, VIII, No. 1, pp. 1-72

31 Relation between Anxiety Neurosis and Anxiety Hysteria. E. Jones, Toronto.
32 Effect of Psychophysical Attitudes on Memory. W. D. Tait.
33 Case of Synesthesia. I. H. Coriat, Boston.
34 Psycho-Analytic Study of Severe Case of Hysteria. L. E. Emerson, Boston.

Journal of Infectious Diseases, Chicago

May, XII, No. 3, pp. 277-569

35 *Etiology of Relapse in Malarial Infections. W. M. James, Ancon, Canal Zone.
36 *Inhibitive Action of Bile on Bacillus Coli. E. O. Jordan, Chicago.
37 Use of Virulent Salt Solution as Virus in Manufacturing Hog Cholera Serum. W. S. Robbins, East Lansing, Mich.
38 *Is Specificity of Anaphylaxis Reaction Dependent on Chemical Constitution of Proteins or on Their Biologic Relations? H. G. Wells and T. B. Osborne.
39 Maintenance of Virulence by Bacillus Abortus, Bang. F. M. Surface, Lexington, Ky.
40 *Experimental Streptococcal Arthritis in Rabbits. L. Jackson, Chicago.
41 *Interrelations in Streptococcus Group, with Special Reference to Anaphylactic Reactions. D. J. Davis, Chicago.
42 *Experiments Bearing on Droplet Infection in Diphtheria. O. Teague, New York.
43 Epidemiologic Diagnosis and Management of Typhoid. C. J. Hunt, Harrisburg, Pa.
44 Systematic Study of Coccaceae in Collection of Museum of Natural History. I. J. Kligler, New York.
45 Morphology of Sporothrix Schenckii in Tissues and in Artificial Media. D. J. Davis, Chicago.
46 *Meiostagmin and Epiphanin Reactions in Diagnosis of Carcinoma. W. H. Burmeister, Chicago.
47 Properties and Agglutinations of Non-Pathogenic Vibrios. C. V. Craster, New York.
48 Outbreak of Septic Sore Throat in Concord (N. H.), January, 1912. T. A. Mann, Durham, N. C.

35. **Relapse in Malarial Infection.**—James suggests that if the hypothesis be accepted that the asexual cycle alone is the cause of relapse, and under certain conditions takes on a relative immunity against quinin, an explanation is offered of all the factors concerned in the etiology of relapse; no other hypothesis will explain satisfactorily the correlation between these factors and the data which to this time have been collected about relapse. These factors in relation to the asexual cycle are summarized by James as follows: Relapse is one of the most common factors in malarial infection; and certainly the asexual cycle is that phase of the malarial parasites found most frequently associated with the primary infection and relapse, and with one relapse and the succeeding one. Relapse follows frequently the so-called spontaneous cure of malaria, because the asexual cycle in such an instance often persists, in numbers that can be detected by the "thick film" method, or slightly below this limit, in the intervals of apyrexia.

Infections treated insufficiently with small doses of quinin will in all probability relapse, because the parasites of the asexual cycle in the spleen and marrow are very slightly, if at all, affected thereby. Relapse is less likely to occur when the infection is promptly and vigorously treated, because the older the asexual cycle, the more resistant to quinin it becomes, as shown by numerous clinical observations. When a relapse occurs, with manifestations of parasites in the peripheral blood, during the administration of quinin by mouth in sufficient doses, faulty absorption of the drug is sure to exist, and the method of medication should be changed. The asexual generation does not have an unlimited potential of vitality. That is why, if death does not supervene in the course of a malarial infection, the infection itself will in time die out, but often not until it has done irreparable damage. It is easier to eradicate an infection in persons in good health, because in these the natural protective forces of the body aid the action of quinin. The hypothesis also concurs with the two factors in the life-cycle of the parasites, which are intimately connected with the etiology of relapse: because (a) quinin given by the mouth very often does not eradicate the asexual cycle in the marrow and spleen, and the residual parasites become immune; and (b) the longer the asexual cycle persists the easier it acquires immunity against the drug.

The practical importance of the hypothesis lies in the value it has as a guide to treatment of malaria. Small doses of quinin, even in the mildest infections, serve only to render the asexual cycle relatively immune, so that larger doses, which, if they had been given early in the attack might have eradicated the parasites, are later without effect. Clinical experience in Ancon Hospital in the treatment of malaria in American employees has shown that when the liquid preparation of quinin sulphate was given in doses of 20 grains per day by mouth, while acute attacks were often controlled, recurrent cases in large numbers followed at very short intervals later, and in the treatment of these, larger doses were necessary. A routine treatment of 20 grains on diagnosis and 10 grains three times a day later, for at least ten days, was then established. This noticeably diminished the number of recurrent cases among the Americans, but not sufficiently among the poorly nourished European laborers. Forty-five grains per day, in doses of 15 grains each, has practically eradicated recurrent malaria among the Americans, and to a large extent among the European laborers.

36. **Inhibitive Action of Bile on B. Coli.**—Jordan's observations show that bile inhibits at least from one-third to one-half of the viable cells of *B. coli* and sometimes a much larger proportion; that freshly isolated cultures are inhibited

in at least the same degree as those under long cultivation or those subjected to prolonged sojourn in water; that there is no evidence that *B. coli* cells that are unable to grow on bile medium are any more "attenuated" or less "vigorous," biologically, than their fellows, and that with some care in making dilutions and replating if necessary *B. coli* will be isolated in a larger proportion of cases from lactose broth fermentation tubes than from lactose bile. These facts may not modify the advantages claimed for bile media for presumptive tests but they do demonstrate that bile is an inhibiting substance for *B. coli* as for other micro-organisms and that its use always involves the suppression of a certain number of viable cells. The cells that are suppressed cannot be assumed to be any less significant in the interpretation of sanitary water analyses than the cells actually surviving the passage through bile.

38. **Specificity of Anaphylaxis Reaction.**—From the results of experiments made by Wells and Osborne it seems probable that the entire protein molecule is not involved in the specific character of the anaphylaxis reaction, but this is developed by certain groups contained therein, and that one and the same protein molecule may contain two or more such groups. These experiments also demonstrate that the "group reactions," characteristic of biologic reactions between closely related species, which usually have been interpreted as indicating the presence in related organisms of identical as well as distinct proteins, can really be exhibited by single isolated proteins from related organisms. In other words, biologic relationship and chemical relationship seem to be much the same. Attention is also called to certain other observations: (a) that animals sensitized with two proteins will, as is well known, react with either, and that after recovery from reaction with one protein the reaction given with the second protein is less severe than it would be if the animal had not already passed through an anaphylactic intoxication; (b) that after injection with an intoxicating dose of a vegetable protein, another injection with the same protein twenty-four to seventy-two hours later, when the animal is usually insusceptible, so far as constitutional symptoms are concerned, often produces a severe, transient peritoneal irritation, which seems to be in the nature of a specific local reaction.

40. **Experimental Streptococcal Arthritis.**—The changes in the joints of rabbits inoculated with hemolytic streptococci were studied by Jackson after periods of four, five and seventy days; those produced by *Streptococcus mucosus* at the end of ninety-five days, and the joint changes caused by streptococcus viridans at the end of 136 days. The largest number of joints studied were from the rabbits inoculated with streptococci isolated from human lesions produced by the milk epidemic. These animals died or were killed after periods of two, four, ten and twenty-four hours and two, three, four, seven, eleven and thirteen days. The alterations described depend on the early and apparently simultaneous and independent localization of the bacteria in the joint cavity, in the tissues surrounding the blood-vessels of the synovial membrane, plica synovialis, tendon sheaths and blood-vessels of the periosteum and bone-marrow near the epiphyseal cartilages. The rather extensive involvement of the peri- and parasynovial structures such as tendon sheaths, epiphyseal cartilages and bone-marrow is perhaps more marked than has been described by others.

The nodular formations developing in the tissues about the joints are essentially similar to those described in the myocardium of some of these same animals and constitute a feature of the healing or later stages of the inflammation produced not only by *Streptococcus viridans* but also by the streptococcus from the epidemic. Of two points deserving special mention, one is the vulnerability of the triangular, loosely constructed fibro-areolar tissue projecting into the joint laterally, the so-called plica which contains varying amounts of adipose tissue. It may be that the spirally arranged blood-vessels here offer exceptional opportunities for the lodgment of bacteria or are as much end vessels as those next to the epiphyseal cartilages. The other point concerns the influence on the character of the inflammatory process exerted by the peculiarities of joints in that they are at the same time free surfaces and closed cavities. Jackson suggests that these features contribute in ways we do not fully understand to the results of infection, especially the absorption of inflammatory exudates and the extent to which healing is possible.

41. **Interrelations in Streptococcus Group.**—The data in Davis' paper are arranged in such a way as to indicate a biologic classification of members of the streptococcus group. Hemolysis, growth on blood-agar, capsule formation, solubility in bile, sugar reaction, pathogenic properties in animals and anaphylactic reactions are considered. Transformation of one member into another within certain limits appears to be a not uncommon phenomenon.

42. **Droplet Infection in Diphtheria.**—In talking and coughing, diphtheria patients frequently emit droplets containing viable diphtheria bacilli, but they emit such droplets usually in small numbers only. Patients with laryngeal diphtheria apparently do not throw out many more droplets containing diphtheria bacilli than do pharyngeal cases. In agreement with this observation, it was found by Teague that after swabbing the larynx with a suspension of *Bacillus prodigiosus*, no more droplets containing this bacillus are thrown out in coughing and talking than after swabbing the pharynx and mouth. The diphtheria bacillus is much more resistant to death from drying than *Bacillus prodigiosus*. Hence, the former would tend to remain alive in suspended droplets longer than does *Bacillus prodigiosus* in the numerous series of experiments in which it has been used. It is pointed out that bacteria in suspended droplets would remain alive much longer in poorly heated tenements during cold weather than is indicated by laboratory experiments performed at higher temperatures. It is believed that the data furnished by these experiments will be of aid to the epidemiologist and to the sanitarian in arriving at a correct estimate of the importance of the part played by droplet infection, as compared to other modes of infection, in causing the spread of diphtheria.

46. **Meiostagmin and Epiphanin Reactions.**—A decidedly negative meiostagmin reaction, Burmeister claims, is of more value than a positive one and may be considered of some weight in ruling out carcinoma. A moderately or even strongly positive reaction is not necessarily indicative of malignant tumor. The epiphanin reaction is valueless in the diagnosis of malignant tumors. The range of error determined by the blind titrations in a measure also explains the results obtained by other workers who have employed this reaction in the diagnosis of diseases other than carcinoma.

Journal of Nervous and Mental Disease, Lancaster, Pa.

May, XL, No. 5, pp. 289-360

49 *Aborted Forms and Preparalytic Stage of Acute Poliomyelitis as Observed in Buffalo Epidemic. E. A. Sharp, Buffalo.
50 Mirror Writing and Other Associated Movements Without Paralysis. C. W. Burr and C. B. Crow, Philadelphia.
51 Cerebellar Tumor; Glioma; Operation; Recovery. M. Mallhouse and W. F. Verdi, New Haven, Conn.
52 Experimental Studies on Nervous Mechanism in Production of Hyperplasia. W. Timme, New York.

49. **Aborted Forms of Acute Poliomyelitis.**—Summarizing the findings in twenty-nine cases and comparing them with the suspicious cases and the remainder of the paralytic cases observed during the epidemic, Sharp found that all grades of transition occur from the mildest gastro-intestinal or simple febrile disturbances to the severe paralytic and rapidly advancing fatal cases. While the majority of the cases observed during the epidemic conformed to the regularly recognized types of the disease, transitional and mixed types were not uncommon. Sharp says that until some reliable diagnostic criterion can be found, based on chemical, bacteriologic or other laboratory evidence, the etiology of many of the febrile disturbances of early life must remain questionable. That some of these are produced by the virus of poliomyelitis appears highly probable.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

May, IV, No. 5, pp. 363-451

53 *Pharmacology of Respiratory Center. A. R. Cushny, London.
54 *Factors Determining Tolerance of Glucosids of Digitalis Series. A. J. Clark, London.
55 Pharmacology of Snake's Heart. A. J. Clark, London.
56 Relation of Vascular Conditions to Pituitrin Diuresis. R. G. Hoskins and J. W. Means, Columbus, Ohio.
57 Saline Perfusion of Respiratory Center in Frogs: Effect of Calcium Chlorid and Potassium Chlorid. E. R. Hooker, Baltimore.

53. **Pharmacology of Respiratory Center.**—The drugs examined by Cushny—morphin, chloral, urethane, caffein and strychnin—affect the frequency of the respiration more constantly than the depth; and as a general rule the change in the frequency is in the opposite direction to that in the depth. Thus the three depressants, morphin, chloral and urethane, tend to slow and deepen the respiration, while strychnin and caffein quicken it and render it shallower. But considerable changes in the rate may occur under all these drugs without any significant change in the depth. The reaction to CO_2 is altered in the same way as the respiration in air. For here again the chief alteration is shown in the frequency, while the depth is comparatively little changed. The view that the normal activity of the respiratory center is dependent on the CO_2 hormone thus receives support from these experiments in which drugs that reduce the normal rate of respiration also lessen the reaction to CO_2, and similarly drugs that increase the normal rate of respiration augment the reaction to CO_2.

As regards the nervous control of the respiration, those drugs that accelerate the breathing render the inhibitory reflexes less efficiently, while the depressants facilitate inhibition. An analogy may be drawn between the effects of poisons and those of changing the number of afferent stimuli. For example the respiration of profound morphin poisoning resembles in so many features that after section of the vagi, that it suggests that morphin may act by cutting off afferent stimuli from the center. But the poisons investigated have not proved to possess any very striking action on the passage of impulses to the center and such changes as are observed in the effects of reflex excitation regards rather the result of the changes in the center than the essential cause of these changes. The effects of drugs on the respiration therefore cannot be assigned wholly to either factor in the regulation. The relation of the hormone to the center is altered under drugs but only as regards the rate. Change in the nervous control occurs but also fails to account for all the features observed. The essential character of the respiratory center is its power of rhythmic discharge under a constant stimulus from the presence of CO_2. The frequency of the rhythm and the strength of the impulses emitted, may be altered by variations in the CO_2 tension and also by nervous influences, but the essential rhythmic power persists.

Drugs quicken or slow the rhythm without necessarily altering the strength of the impulses sent out at each active phase; in other words, the rapidity of the anabolism in the center is changed by drugs but the strength of the catabolic discharge which occurs when the critical point is reached, is unchanged by them except in as far as they change the CO_2 tension indirectly. Thus the changes in the respiration under poisons cannot be attributed exclusively to altered susceptibility either to the hormone or to nervous impulses, but rather indicate a more fundamental action on the rhythmic process on which both of these influences act. This change in the rate of the anabolism affects the response to CO_2, which induces greater or less acceleration according as the anabolism is promoted or retarded. The afferent nervous impulses are also influenced, but the strength of the impulses emitted are changed only indirectly.

54. **Tolerance of Glucosids of Digitalis Series.**—The experiments described by Clark were undertaken to determine by what mechanism tolerance is established in the snake and the rat, to glucosids of the digitalis series—"the cardiac glucosids." He found that the common grass snake *Tropidonotus natrix*) is very tolerant of strophanthin; this tolerance is due to tissue immunity, strophanthin having little effect on the isolated heart; a similar immunity, due to the same cause has been shown by other writers to exist in the toad and the rat. There is no evidence that any tissue of the animals tested (frog, snake, rabbit and rat) has any power to destroy strophanthin. There is no evidence that the heart muscle of any of the above animals can specifically absorb strophanthin. In the frog, rat and rabbit the liver has no power to absorb strophanthin. The red blood-corpuscles of the frog in the presence of plasma possess the power of absorbing small quantities of strophanthin, but the mammalian blood has no such power.

Kansas Medical Society Journal, Kansas City

May, XIII, No. 5, pp. 183-224

58 Tabes Dorsalis and Allied States: Three Clinical Cases. A. L. Skoog, Kansas City.

Medical Record, New York

May 31, LXXXIII, No. 22, pp. 967-1012

59 Clinical Evidence of Lymphuria. H. Stern, New York.
60 Colon Bacillus Infection of Kidney. W. Ayres, New York.
61 Prostitution in New York City: Study in Social Hygiene. D. C. McMurtrie, New York.
62 Case of Addison's Disease with Severe Abdominal Symptoms. L. S. Milne, Rosedale, Kan.
63 Angioneurotic Edema. J. M. Lobsenz, New York.
64 Study of Flaccid Spinal Paralysis which Attacked Louis Pasteur in Early Maturity and Its Similarity to Attack of Acute Epidemic Poliomyelitis. J. V. Manning, Brooklyn.
65 Pica for Early Laparotomy in Abdominal Diseases. A. Goldman, New York.
66 Venereal Diseases in Negro, with Special Reference to Gonorrhea. J. O. Rush, Mobile, Ala.
67 Simple and Satisfactory Method for Removing Adenoids and Tonsils. W. W. Carter, New York.

New Mexico Medical Journal, Las Cruces

May, X, No. 2, pp. 29-59

68 Lumbosacral Sprain. C. M. Mayes, Roswell.
69 Constipation. S. G. Von Almen, Clovis.
70 Psycho-Epilepsy. C. F. Beeson, Roswell.
71 Carcinoma of Mamma. S. D. Swope, Deming.

New York Medical Journal

May 24, XCVII, No. 21, pp. 1061-1112

72 Nitrous Oxid Gas, Essence of Orange Ether and Sequestration in General Anesthesia for Operations in Upright Position. T. R. French, New York.
73 Recovery in Case of Influenzal Meningitis Complicated by Pneumonia. T. E. Satterthwaite, New York.
74 *Should Internship Be Required? I. Dyer, New Orleans.
75 Meniere Symptom Complex. S. J. Kopetzky, New York.
76 Direct Laryngeal Examination. J. A. Pratt, Aurora, Ill.
77 Enhancing of Auditory Acuity by Psychologic Methods. W. J. W. A. Maloney, New York.
78 Treatment of Tuberculosis. A. B. Jackson, Philadelphia.
79 Sexual Problems of To-Day. B. S. Talmey, New York.
80 Case of Total Deafness Following Dose of Quinin. M. J. Ballin, New York.
81 Gastroptosis and Coloptosis Transversa As Seen from Post-Mortem Examinations. K. M. Lynch, Philadelphia.

May 31, No. 22, pp. 1113-1164

82 *Restoring Mobility after Bony Ankylosis of Joints. R. T. Taylor, Baltimore.
83 Care of Tuberculous Employees by Corporations as Employers. A. H. Doty, New York.
84 Philosophy of Preventive Medicine. A. C. Reed, New York.
85 Hospital Uranalysis. V. C. Myers, New York.
86 Enchondroma of Scapula. W. D. Miningham, Newark, N. J.
87 Pylorospasm with Gastric Tetany, Cured by Gastro-Enterostomy. R. L. Pitfield, Philadelphia.
88 Mitral Stenosis. M. Schulman, New York.
89 Old Method of Treatment of Syphilis Versus New. M. B. Parounagian, New York.
90 Three Cases of Epidemic Septic Sore Throat in One Family. M. B. Gordon, New York.
91 Care and Aftercare of Consumptive. B. S. Horowicz, New York.
92 Acute Intestinal Obstruction. R. A. Barr, Nashville, Tenn.
93 Successful Treatment of Atrophic Rhinitis and Ozena. L. Jacobs, New York.

74. Abstracted in THE JOURNAL, March 22, p. 934.

82. **Restoring Mobility after Bony Ankylosis of Joints.**—Taylor cites seven cases of ankylosis in which he injected his mixture of yellow wax, 1 part, and lanolin, 5 parts, melting at about 130 F., with a considerable degree of success.

Ohio State Medical Journal, Columbus

May, IX, No. 5, pp. 267-264

94 Relation of Accessory Cavity Disease to Eye and Orbit. J. E. Brown, Columbus.
95 Pruritus Ani. S. Englander, Cleveland.
96 Thymus and Combination of Thymus-Hyperplasia with Base-Dow's Disease. A. Elsaesser, Young-town, Switzerland.
97 *Tuberculin in Treatment of Genito-Urinary Tuberculosis. C. A. Coleman, Dayton.

97. Tuberculin in Genito-Urinary Tuberculosis.—Inasmuch as tuberculosis of the urogenital tract differs very little from tubercular infections located elsewhere in the body, Coleman says it would be useless to outline what cases should or should not receive tuberculin injections, except that one must differentiate between operable and inoperable cases. The pathologic changes must be considered whether extremely acute or actively progressive, also, the general condition of the patient. If there is a persistent temperature of over 100 F., night sweats, chronic diarrhea, progressive loss of weight and extensive involvement of tissue, tuberculin injections are contra-indicated. In administering tuberculin Coleman considers it a very good rule to continue the entire course of treatment without changing the source of supply, as he has found that two concentrated solutions having the same strength or standardization but from different manufacturers varied in specific gravity, color and physical properties. He also prefers to give the injections subcutaneously, preferably between the scapulae.

Dilutions are made up fresh each day, using one-half of 1 per cent. phenol as diluent. He begins with a minimum dose of 1 c.c. of one-one-hundred-thousandth dilution and increases the dose 1 c.c. each following injection until a reaction is evident. Injections to be given every fifth day unless a prolongation of temperature ensues or increased local or general reaction. After reaction is manifest, that is, rise in temperature not to exceed two degrees above temperature of patient before injection, no increase of dose is made until the reaction inducing dose has been twice repeated without producing a rise of temperature, so that in each injection that again induces reaction, the dose must be tolerated twice before further increase is attempted. The maximum limit is regulated according to the necessity of the case. Do not stop injections until long after all symptoms have subsided; also, do not discontinue the injections of tuberculin too suddenly as rather severe relapses may follow. All other lines of treatment must be used in conjunction with tuberculin therapy. Proper hygiene, in the way of an out-of-door life, fat-producing foods, rest and everything that will aid in restoring health are absolutely essential.

Coleman reports three cases and has had under observation during the past eighteen months twenty additional cases as follows: Fourteen cases of tuberculosis of kidney, thirteen being unilateral and one bilateral; ten of them operable, four inoperable (three of the latter due to extensive pulmonary involvement and one due to both kidneys being affected). Six cases of tuberculosis of epididymis, two cases being operated on; three cases of early infection, one inoperable due to extensive pulmonary involvement. Fifteen of these patients have received tuberculin injections with the following results: 28 per cent. apparently cured, 49 per cent. improved, 12 per cent. unimproved, 11 per cent. not under treatment sufficient time to draw conclusion.

He summarizes his views as follows: There is no spontaneous cure for tuberculosis of the kidney. Tuberculin will not cure but will be a valuable adjunct combined with other methods of treatment. Operable cases of renal tuberculosis are not suited to tuberculin injections, but early cases, in which we can positively find tubercle bacilli without suppuration or impairment of the functional activity of the kidney, are suited to treatment by tuberculin until such time as symptoms present indications for nephrectomy. Tuberculin treatment certainly is worthy of recommendation in cases of renal tuberculosis following nephrectomy when morbid foci still remain in the urinary tract or in other organs. Early involvement of the lower genital tract is certainly improved by tuberculin therapy, although any influence exerted on the morbid focus in the sense of a cure has not been demonstrated. Inoperable cases are scarcely influenced by tuberculin, but, in the absence of other therapeutic means, may be tried; also certain isolated cases will not respond to a reaction of tuberculin and may therefore be carried on without injury to the patient. Tuberculin should not be employed promiscuously as a matter of experiment. If you do not possess a definite knowledge of the physiologic action of tuberculin the treatment is purely empirical. Do not think you can follow the directions given out by manufacturers relative to the regulation of dosage, or depend on the serial dilutions as a method of standardization. If you do, your results will certainly be far from satisfactory. The patient must be closely observed, results accurately tabulated, the effects of a regulated administration of tuberculin noted and from such histories much valuable information can be obtained.

Ophthalmic Record, Chicago

May, XXII, No. 5, pp. 23-290

98 Analytic Consideration of Symptoms of Eye Strain with Special Reference to Those Symptoms Cited to General Practitioner. J. R. Newcomb, Indianapolis.
99 Intra-Capsular Operation for Cataract after Method of Professor Stancleanu, Bucarest. W. L. Simpson, Memphis, Tenn.
100 Eye Unconsciously Injured. S. Mitchell, Hornell, N. Y.

Public Health Journal, Toronto

May, IV, No. 5, pp. 267-344

101 Value of Playgrounds to Community. J. A. Riis, New York.
102 School Clinics. L. H. Guest, Blackfriars, London.
103 Health Visiting in American City. E. Detwiler, Richmond, Va.
104 Relation of Hospital for Mental Diseases to Community. E. H. Young, Kingston, Ont.
105 Eugenics: Sordid, Scientific Side of Life. A. P. Reid, Nova Scotia.
106 Constructive Program for Housing Reform. M. Chadsey, Cleveland.
107 Philosophy of Mastication. G. M. Niles, Atlanta, Ga.
108 Occupational Diseases. H. B. Blakey, Columbus.
109 Disinfection and Disinfectants. F. Schneider, New York.
110 Plants for Rock Garden. R. R. Todd, Toronto.
111 Dry Closets. J. S. Dunn, Kimberley, South Africa.
112 Dust Prevention by Use of Palliatives. A. H. Blanchard, New York.
113 Foot and Mouth Disease. D. G. Collins, Toronto.

Vermont Medical Monthly, Burlington

May, XIX, No. 5, pp. 105-130

114 Recent Experimental Work with Cancer Ferments. C. F. Ball, Rutland.
115 Effects of Alcohol When Used as Medicinal Agent. D. Marvin, Burlington.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Clinical Journal, London

May 7, XLII, No. 5, pp. 65-80

1 Diagnosis of Primary Intrathoracic Malignant Disease. W. H. M. Telling.
2 Causation and Treatment of Gastric Hyperacidity. J. M. Fortescue-Brickdale.
3 Reflections Suggested by Bladder Case. F. W. Langridge.

May 14, No. 6, pp. 81-96

4 Pelvic Cellulitis. J. B. Hellier.
5 Conditions Simulating Appendicitis. H. W. Carson.

Medical Press and Circular, London

April 30, CXV, No. 3860, pp. 459-484

6 Procedure for Reduction of Dislocation of Shoulder. M. Marcille.
7 Fixation of Subcuticular Sutures. W. Pearson.
8 Evolution of Epidemics: Present-Day Scientific Evidences of Evolution. J. T. C. Nash.
9 Integration and Disintegration of the Personality. (To be continued.) H. Campbell.

May 7, No. 3861, pp. 485-510

10 "Shock" During Anesthesia. J. D. Mortimer.
11 Case of Acute Septicemia Due to B. Procyaneus. J. M. Clarke.
12 Paratyphoid Fever. J. Hay.
13 Integration and Disintegration of the Personality. H. Campbell.

May 14, No. 3862, pp. 511-536

14 Chronic Joint Disease. D. Power.
15 Diseases of Skin in Relation to Cardiovascular Disturbances. D. Walsh.
16 Balsam of Peru: Historical Note. J. Knott.

17 Medical Gymnastics Considered as Prelude to Physical Education in Treatment of Mentally Deficient Children. E. F. Cyriax.

Quarterly Journal of Medicine, London

April, VI, No. 23, pp. 293-434

18 *Use of Oxydase Reaction in Differentiation of Acute Leukemias. J. S. Dunn.
19 *Investigations on Gastric Juice in Malignant and Non-Malignant Diseases of Stomach and Duodenum. S. B. Schryver and C. Singer.
20 *Quantitative Estimation of Amylolytic Ferments in Urine as Measure of Certain Pathologic Conditions. D. Corbett.
21 "Osler's Sign" and Certain Cutaneous Phenomena Sometimes Associated with Heart Disease. F. P. Weber.
22 *Four Cases of Fulminating Pneumonia from a Public Institution. E. Glynn.

18. **Oxydase Reaction in Acute Leukemias.**—The occurrence of a positive indophenoloxydase reaction in large non-granular cells in acute leukemia Dunn regards as certain proof of their myeloid nature, and allows a diagnosis of acute myeloid leukemia to be readily made from blood-examination. The oxydase reaction is negative in the more embryonic forms of marrow-cells. It is always negative in small myeloblasts, and is probably always negative in the most typical stage of large myeloblasts with uniformly dense basophil reticular protoplasm. When it falls positive in these large non-granular cells it is associated with alterations in the protoplasm which are recognizable by ordinary staining methods, and which indicate stages of ripening toward the granular myelocytes. Cases of acute myeloid leukemia may occur in which the type of blood-formation is so embryonic that the oxydase reaction is valueless for differential diagnosis, but even in such cases the histologic characters of the large leukocytes may render a diagnosis possible. He reports three cases.

The onset and course of the first case were not those of the most acute forms of leukemia, and though serious symptoms existed only for four months, Dunn suggests that it is possible that leukemic changes in the organs had been present with subleukemic blood-picture for some time previously. However, the rise in the number of leukocytes in the circulation occurred with great rapidity, from normal limits to over 200,000 per cubic mm. in ten days' time, and the leukocytes present showed very embryonic characters, as nearly 90 per cent. are, in Ehrlich's sense, non-granular. Examination of the blood by ordinary staining methods suggested that these non-granular cells were myeloblasts, and that the myelocytes were developing from them. A certain proportion of typical myeloblasts such as Naegeli described were present, and an unbroken chain of transitional forms was observed between these and the granular myelocytes. The oxydase reaction was positive in the great majority of these cells and positive in greatly varying degree in different examples, a fact which, Dunn says, confirms the idea that transitional forms of many varying degrees of maturity are represented. The histologic examination of the organs showed that the type of blood-formation was myeloid, as described by Schultze, and the myeloid nature of the deposits was again fully confirmed by the positive oxydase reaction.

The second case presented a typical picture of acute leukemia. Its brief course was marked by hemorrhages into the skin and from the mucous membranes, by fever, and by ulcerative gingivitis. The lymph-nodes were not enlarged. The blood-picture showed a considerable increase of leukocytes, of which the great majority were large non-granular cells. These presented the typical characters of Naegeli's myeloblasts, and transitional forms between them and myelocytes were present, though scanty. The oxydase reaction conclusively proved the myeloid nature of a certain proportion of these, which differed from the others only by a slight alteration of the protoplasm indicative of ripening. The absence of the reaction from the majority of them Dunn explained by their very embryonic character rather than by pathologic suppression of a function already developed. They corresponded accurately with the first type of myeloblast described in the first case which also gave negative oxydase reaction. The type of the blood-formation in the marrow, in the pulp of the spleen, and in the medullae of lymph-nodes, and the atrophy or inactivity of the lymph-nodes, he says, were confirmatory of the view, based on the blood-examination, that the case was one of acute myeloid leukemia.

This case differed from the first case not only in being more acute and of more embryonic type, but also in showing much less advanced changes in the organs. In the cervical lymph-nodes, for example, there was little enlargement, and the condition of leukemic infiltration was at an early stage, which rendered possible some observations on its mode of occurrence. It was seen that the lymphatic tissue remained indifferent and was composed of small lymphocytes; the myeloblasts were most numerous in the sinuses and in the neighborhood of these; one or two foci of more massive development of myeloblasts which were present were also in the neighborhood of the sinuses. (Similar foci were observed in spleen and in mesenteric lymph-nodes.) These appearances, so far as they go, were in favor rather of the metastatic origin of the myeloid tissue than of the metablastic development of it from cells previously present in the organs.

In the third case the Jenner and triacid counts gave almost identical figures: 97 per cent. of non-granular and 3 per cent. of granular cells, and the oxydase reaction was negative in all but the granular cells. Accordingly, this reaction gave no indication whatsoever of the occurrence of transition between the two series, and so far as it goes the nature of the non-granular cells remains in doubt. The leukocytes presented perfectly definite myeloid characters; they corresponded in every detail with those described in the second case. The only differences recognizable between the blood-pictures in these two cases were the smaller percentage of granular cells, 3 per cent. in place of 6 per cent., and the less frequent occurrence of definite transition forms such as cells with looser reticulum or with metachromatic violet granules. Absolute proof of the myeloid nature of the case was impossible in absence of histologic examination of the blood-forming organs, but the characters of the cells seem too definitely those of Naegeli's myeloblasts to render possible any other explanation. This case Dunn would therefore regard a representing stage of embryonic blood-formation at which the value of Schultze's oxydase reaction as a test for myeloblasts breaks down.

19. **Gastric Juice in Malignant and Non-Malignant Diseases.**—The authors state emphatically that all methods of estimating the chlorid-secreting activity of the stomach by examination of gastric juice contain sources of error beyond experimental limits. A proportion of "secreted chlorid" is always in combination with the amino-acid groupings of the digestion products in the form of hydrochlorids. Hydrochloric acid as it is secreted enters, either partly or wholly, into combination with the products of digestion. The amount thus combined depends on the amount and character (e. g., degrees of digestion) of these products. An index as to the amount and character of these products is furnished by the nitrogen estimations and determination of the "nitrogen factor." "Secreted chlorid" (i. e., total chlorid less inorganic chlorid) is the best available index of gastric efficiency as regards hydrochloric acid. The "peptic index" and the "nitrogen factor" are also valuable indications of gastric efficiency. The amount of "secreted chlorid" and the "peptic index" usually vary in parallel fashion. Departures from this rule are, however, frequent, but almost always in the direction of a relative depression of the peptic index.

The most satisfactory method of classifying gastric juices at present available is based on the double consideration of the amount of "secreted chlorid" and the "peptic index." In uncomplicated cases of duodenal ulcer, the amount of "secreted chlorid" is raised together with the peptic index, while the "nitrogen factor" approximates to 2.4. In very chronic cases the "peptic index" is lowered and the nitrogen factor raised. In obstructed cases and cases with gastric adhesions the secreted chlorid also falls. The general characteristics of pyloric ulcer are similar to those of duodenal ulcer and are often even more pronounced. In cases of ulcer of the body of the stomach the author's analytic results vary. Frequently both chlorid-secreting and peptic activity are markedly

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depressed. In other cases the secretory activity is high. The "peptic index" did not appear to rise above normal in any case of ulcer of the body of the stomach. The characteristics of the gastric juice obtained from cases of duodenal and pyloric ulcer are capable of explanation as the result of a vicious circle, of which preternatural excitation of the pyloric and duodenal mucous membrane, stimulation of the chemical mechanism of gastric secretion and increased secretion are the links.

The analytic distinctions that prevail between ulcer of the body of the stomach and ulcer of the pylorus are also found in carcinoma of the same two regions. Hyperchlorhydria or at least euchlorhydria is common in carcinoma of the pylorus, but is not found in carcinoma of other parts of the stomach. It is therefore probable that the changes in the composition of the juice depend rather on the site than on the nature of the lesion. Carcinoma of the stomach has no specific effect on the composition of gastric juice, although both pepsin and chlorid readings are generally lower than in other conditions. In alcoholism the "peptic index" is depressed while the chlorid secretion remains normal or only slightly depressed. In some cases the chlorid secretion is raised. With visceroptosis and notably nephroptosis there is a general depression of the gastric functions. At the same time the "nitrogen factor" is raised. The same results are associated with an atonic gastric wall. Hyperchlorhydria, hypochlorhydria, and even achylia are encountered, independently of coarse gastric lesions. The coincidence of a definite hyperchlorhydria with a greatly raised "peptic index" (80 and over) is practically diagnostic of pyloric and duodenal ulcer among gastric diseases. Such cases, however, must be carefully distinguished from certain cases of chronic appendicitis in which no coarse gastric lesion is discernible. Very low chlorid readings (e. g., secreted chlorid below 3.0) practically exclude pyloric or duodenal ulcer. A "nitrogen factor" of 2.8 and over has been found to be almost diagnostic of delayed emptying of the stomach. Dissociation of chlorid and pepsin secretion the authors believe to be probably the result of chronic inflammatory change in the gastric mucous membrane.

20. **Amylolytic Ferments in Urine.**—Corbett found that a starch-reducing ferment is excreted in the urine of normal individuals. The amount passed per twenty-four hours is fairly constant, varying when measured by Wohlgemuth's short method between the values of 6.6 and 33.3 units, the average being 10 to 20. Each unit represents 1 c.c. of 0.1 per cent. starch solution converted into dextrine in half an hour by 1 c.c. of urine. This ferment is also present in normal blood-serum, which has, when examined by an equivalent method, an average value of 10 units. This method of quantitative estimation is reliable, the values found in urine being unaffected by ordinary changes of diet in adults, by the reaction of the urine, the presence of bacteria, or any other abnormal constituent except blood. Nor is the activity of the ferment diminished to any important extent by keeping for many weeks, provided that the urine is preserved with toluol. In an infant fed exclusively on milk, the amount of ferment excreted was very small. This rose at once with the administration of a starch-containing food.

An examination of twenty-four hour specimens of urine yielded results which can be divided into two main classes: (a) As a direct measure of the efficiency of diseased kidneys. (b) As a measure of the amount of ferment which has entered the blood. As regards (a), certain reservations are necessary. It is probable that where there is a considerable amount of albumin passed, there is some leakage of ferment which has required no renal activity for its elimination, so that the values found might be misleading. Therefore, the diastase content of the serum should be also examined on more than one occasion, and the ratio of serum of urine compared. Where the *d* value of the serum constantly exceeds that of the urine, it may be assumed that there is a considerable loss of renal efficiency. Where the albumin is scanty or absent the values for the urine when compared with the normal can be taken as a more accurate indication of the amount of damage to the kidney, although here also observations on the serum as well would give more accurate information. As regards (b), where the kidneys were undamaged and the ferment in the blood abnormally large the readings of *d* in the urine were much higher than those for the serum, showing that it is rapidly eliminated by healthy kidneys.

Such readings can be taken as a measure of the amount of ferment which has entered the blood. At the same time, in certain cases of eclampsia the kidneys were damaged, as evidenced by the large amount of albumin passed, and yet high readings were found in the urine. The *d* values for the serum were not worked out on these cases, but granted that there was an excess of ferment entering the blood, one might conclude that the ferment came through the kidneys with the albumin. High readings in the urine were never found in pure cases of renal disease; they were either normal, subnormal or zero. Values up to 100 units were found in certain acute infective conditions without pronounced renal damage, but the only readings found above this mark were those in the urines from cases of pancreatic disease, certain forms of eclampsia, and one case of "acidosis" in a child. The readings found in some of these cases were so high as to distinguish them from any other pathologic condition examined. All the cases of undoubted pancreatic disease, two being verified by operation and one by microscopic examination, gave high readings whether due to malignant or inflammatory processes. It is, therefore, likely that in certain forms of the toxemia of pregnancy the pancreas is involved.

Corbett believes that the test may, therefore, be a valuable help in the diagnosis of these conditions. In diabetics on strict treatment subnormal readings were generally found, and large alterations in the total amount of urine or sugar passed per twenty-four hours had little or no effect on the *d* values. In severe cases the readings were lower than in the milder forms, although in view of the excessive dilution of the urine the total amount of ferment excreted was well within normal limits.

22. **Four Cases of Fulminating Pneumonia.**—Fifteen cases of atypical pneumonia occurred during two mild epidemics in a Liverpool public institution; in seven the pneumococci were looked for and demonstrated. The four fatal cases cited by Glynn were of a fulminating type, two deaths occurring about seven hours, and two about thirty hours after the first symptom. The two boys dying in about seven hours showed, apart from congestion, no macroscopic, and so little microscopic evidence of pneumonia, that but for the demonstration of the pneumococci in the lung alveoli, the cause of death would not have been discovered. In both the infection was primarily a respiratory one, involving the lung tissue, and had hardly developed into a pneumococcal "septicemia." In both the organisms had produced profound degeneration of the kidneys, thrombosis and hemolysis in the vessels of the lung and kidney, and the deposition of blood-pigment not only in the lung and kidney tissue and in the thrombi, but also in some of the leukocytes in vessels in which thrombosis had apparently not occurred. In the two boys dying after about thirty hours' illness, consolidation was evidently beginning in the lungs of one, while those of the other contained a small patch of pseudolobar pneumonia. Pneumococci were demonstrated in both instances. Clinically all the cases were rather atypical on account of the prominence of gastro-intestinal or cerebral symptoms, and the small amount or absence of consolidation. There is not sufficient evidence to determine whether the atypical nature of the infections was due to some unusual character of the pneumococci as suggested by the thrombotic and hemolytic effects which occurred in two cases, or to some predisposition on the part of the patient, perhaps of the nature of status lymphaticus.

Annales de l'Institut Pasteur, Paris

April, XXVII, No. 4, pp. 265-340

23 Experimental Production of Diphtheric False Membranes. (Étude expérimentale des fausses membranes diphtériques trachéales chez le lapin.) G. Faroy and G. Loiseau.

24 Presence of Manganese in Tissues of Vertebrates, Molluscs, Insects, etc. (Recherches sur la présence du manganèse dans la série animale.) G. Bertrand and F. Medigreceanu.

25 Pneumococci Do Not Proliferate in the Blood in Pneumonia. (Etudes sur le pneumocoque. VI.) L. Cotoni.
26 *The Adrenals in Tetanus and Diphtheria. (Glandes surrénales et toxi-infections.) A. Marie.
27 The Microbian Flora of Large Intestine in Cattle and Sheep. H. J. Choukevitch.
28 Negative Results of Research on Changes in Pneumococcus from Passage through Animals. (Etudes sur le pneumocoque. VII.) C. Truche and L. Cotoni.
29 Sporulation of the Aspergillus Niger and Fumigatus. B. Santon.
30 Destructive Influence on Central Nervous System of Rabbits and Guinea-Pigs of Long-Continued Minute Doses of Intestinal Poisons. S. Wladyczko.

26. **Epinephrin Neutralizes on Contact Tetanus and Diphtheria Toxins.**—Marie reports research in which epinephrin neutralized in the test-tube fifty times the fatal dose of tetanus toxin and five times the fatal dose of diphtheria toxin. It is merely a contact action and does not occur from a distance. Guinea-pigs and rabbits bore without injury injections of the toxins thus neutralized.

Annales de Médecine et Chirurgie Infantiles, Paris

April 15, XVII, No. 8, pp. 237-272

31 Occasional Renal Origin of Hemoglobinuria in Children. Gaujoux, R. Marie and H. Rouèche.
32 *Adrenal Origin of Cyclic Vomiting in Children. (Sur l'origine surrénale des vomissements dits acétonémiques.) E. Terrien.
33 Complications of Scarlet Fever. (Trois cas de scarlatine.) Chateau.
34 Roentgenoscopy of Tuberculosis in Infants. (Diagnostic radiologique de la granulie chez le nourrisson.) L. Ribadeau-Dumas and A. Weill.
35 *Sugar in Uncontrollable Vomiting of Infants. (Etude des propriétés anti-émétiques du lait condensé sucré.) Variot, Lavialle and Rousselot.

May 1, No. 9, pp. 273-308

36 *Pneumonia in Children. E. Weill and G. Mouriquand.
37 Importance of Direct Sunlight in Treatment of Surgical Tuberculosis. (L'héliothérapie.) E. Estor.

32. See Abstract in THE JOURNAL April 19, 1913, p. 1266.

35. Ditto, May 10, p. 1498.

36. **Pneumonia in Young Children.**—Weill and Mouriquand call attention anew to the great diagnostic importance of roentgenoscopy in pneumonia in infants. It not only reveals the focus when it exists, but it has shown that there is a special type for the hepatization at this age. They have applied it to fifty-two infants and to 300 older children from 2 to 15. The list includes eight infants less than a year old. Without the aid of the Roentgen rays in many of the cases the pneumonia would not have been recognized. The findings were positive in all but two of thirty-three cases in infants; in thirteen the shadow long preceded auscultation findings. In eighteen cases the right apex was the seat of the consolidation; in six the left apex; in three each, the right and left base. The area was almost invariably triangular with the base in the axilla and cortical area. Roentgenoscopy has done away—for children—with the old conception of a central focus spreading to the periphery. Bronchopneumonia in children never casts a distinct shadow and especially never this triangular shadow.

Roentgenoscopy may reveal the existence of the triangular patch of consolidation without any stethoscope findings for a while, or the latter may be positive and the former negative. They report in detail a number of cases of each type. When the Roentgen rays have localized one of these silent foci, it will sometimes be possible to note that the vesicular murmur at this point is a little fainter than usual. It is possible, however, for the focus to run its entire course without any signs to be discovered with the stethoscope. In one case both types were associated, a little girl of 2½ having a right triangular patch of hepatization revealed by roentgenoscopy alone, giving no sign of its presence on auscultation, while in the left lung there was a patch of pseudohepatization eliciting murmurs and râles but casting no shadow on the screen. This case demonstrates that the true pneumonic focus is not necessarily always at the same spot as the stethoscope positive findings.

Archives Générales de Chirurgie, Paris

April, VII, No. 4, pp. 385-512

38 Fracture of the Internal Tubercle of the Heel Bone. (Fractures de la grosse tubérosité du calcaneum.) P. Soubeyran and A. Rives.
39 Incipient Ectoplacental Epithelioma. Bassal and Clermont.

Archives Mensuelles d'Obstétrique et de Gynécologie, Paris

April, II, No. 4, pp. 321-448

40 Operative Indications with Uterine Cancer. J. L. Faure.
41 The Intersexual Reactions of the Blood in the Horse. V. Le Lorier.
42 The Disadvantages of Conservative Surgery for Ovarian Cysts. Silhol.

Lyon Chirurgical, Lyons

May, IX, No. 5, pp. 461-588

43 Plastic Operation on Muscles for Facial Paralysis. (La méthode myoplastique dans le traitement de la paralysie faciale.) V. Gosselin.
44 Simultaneous Resection of the Stomach and Transverse Colon; Recovery in Four Out of Five Cases. M. Gouillioud.
45 Tuberculosis of the Appendix. L. Bérard and H. Alamartine. To be continued.
46 Large Glioma in Frontal Lobe. L. Bériel and C. Gardère.
47 *Syphilis of the Thyroid. M. Favre and P. Savy.

47. **Syphilis of the Thyroid.**—Favre and Savy report the histologic findings in a case the clinical history of which was published last year by Poncet and Leriche. The patient was a woman of 38 who had had a year or so before a swelling in the tibia and later one in the sternum, both of which disappeared under iodid treatment. Then the thyroid became enlarged and of a woody consistency. Only transient benefit was realized from partial removal of the gland, but under renewed specific antisyphilitic treatment, conditions returned apparently to normal.

Presse Médicale, Paris

April 30, XXI, No. 35, pp. 349-356

48 Examination of Patients before an Operation. (L'examen des malades en chirurgie.) H. Hartmann.

May 7, No. 37, pp. 369-376

49 *Hour-Glass Stomach. (L'estomac biloculaire.) T. Tuffier and J. L. Roux-Berger.

49. **Hour-Glass Stomach.**—Several cases are described in detail with radiographs, and attention is drawn to the dangers of the cases in which the lower part of the stomach is much larger than the upper part. A gastro-enterostomy on the upper part would have no effect on the stagnation of stomach content in the lower pocket. For this class of cases it is stated that the technic worked out by Clément and Monprofit provides for ample drainage of both pockets, but no description of it is given in this article.

Archiv für klinische Chirurgie, Berlin

CI, No. 1, pp. 1-289. Last indexed April 26, p. 1332

50 *Experimental Production of Gastric Ulcer. (Zur Entstehung des Magengeschwürs.) M. Katzenstein.
51 *Cholelithiasis in Japan. (Statistische, klinische und chemische Studien zur Aetiologie der Gallensteine.) H. Miyake.
52 *Advantages of Meltzer's Insufflation in Respiratory Paralysis During Operations on the Brain. (Experimente zur Bekämpfung der Athemlähmung bei Gehirnoperationen mittels Meltzer's Insufflation.) E. Unger and M. Bettmann.
53 Acute Suppurative Appendicitis; One Hundred Cases. C. Longard.
54 Chyle Cysts in Little Girl. (Multiple mesenteriale Chyluscysten bei einem 7jährigen Mädchen. Volvulus mit Darmperforation und diffuser Peritonitis. Resectio ileï. Heilung.) K. Poulsen.
55 *Undescended Testicles. (Die Pathologie der Hodenretention.) O. Uffreduzzi.
56 *Cancer of the Appendix. (Carcinoide des Wurmfortsatzes.) E. Müller.
57 Disadvantages of Intravenous Isopral General Anesthesia. (Die intravenöse Isopralnarkose.) N. Beresnegowsky.
58 *Syphilis as a Factor in Callous Gastric Ulcer and Other Tumors. T. Hausmann.
59 *Resection of Entire Knee Leaving only Nerves and Vessels. (Resectio extremitatis inferioris. Das neue Princip in der Kniteresection bei ausgedehnter Gelenkaffection.) N. Bogoras.

50. **Cause of Gastric Ulcer.**—Katzenstein gives an illustrated description of several of the sixty-nine dogs on which

he experimented. The results confirm the assumption that gastric ulcer is the consequence of some circumscribed injury of the stomach wall which does not heal because the normal proportions of pepsin and antipepsin have been upset, more pepsin being secreted while there is less antipepsin than normal.

51. **Origin of Gall-Stones.**—Miyake summarizes eighty-six cases of gall-stone and reviews the findings in 191 cadavers, all in Japan. He has encountered choleliathiasis in only 3.05 per cent. of 8,406 necropsies. This is less than half the percentage in Germany, and the sexes were nearly equally involved. He affirms that the comparative rarity of gall-stone trouble in Japan is because less women are affected than in other countries, and this, in turn, he ascribes to the fact that Japanese women do not wear corsets. Cholesterin stones are remarkably scarce in Japan, compared with Europe, probably from the difference between the Japanese and European habits of diet.

52. **Meltzer's Insufflation in Respiratory Paralysis.**—Unger and Bettmann report experimental research to determine whether Meltzer's technic can be applied in the dangerous respiratory paralysis which is a dreaded complication in operations on the brain. Their experiences were extremely favorable and they commend the simple technic with high praise.

53. **Pathology of Undescended Testicles.**—Uffreduzzi's article is concluded. This instalment is devoted to the complications liable to be encountered. It is based on eighty-one cases, his final conclusions being that retention of the testicles is a congenital defect. It seldom occurs alone but with other malformations or developmental defects. The retained testicle in itself does not cause disturbance but complications are frequent, especially hernia, torsion and malignant degeneration. He is convinced that torsion occurs far more frequently than is generally recognized, as only the severer cases compel operative treatment.

56. **Cancer of the Appendix.**—Müller reports five cases of carcinoid of the appendix and the findings in three cadavers. The patients were a girl of 13, two young women and two men of 22 and 49. Cancer of the appendix is generally distinguished by the fact that while the microscope shows carcinoma the clinical course is that of a benign tumor.

58. **Syphilis as a Factor in Gastric Ulcer.**—Hausmann reiterates anew that the syphilitic origin of certain stomach affections frequently escapes discovery. Many of the cases on record of callous ulcer, etc., are in reality merely a syphilitic lesion. Syphilitic stomach affections lead to anacidity, and consequently when the gastric secretion is much reduced, in cases of tumor, a syphilitic origin should be suspected. Chiari has reported a case of boring ulcer in which the syphilitic origin was beyond question, Kuzmik one in which it was probable, and Hausmann has encountered a case of this kind. He urges careful histologic examination to determine a syphilitic as well as a malignant nature when tumor material is sent to a laboratory for examination. Many tumors which have been recorded as sarcomas, especially retroperitoneal tumors, were probably of a gummatous nature. Its detection may require staining with polychrome methylene blue and pyronin methyl green, as the ordinary stains for tumor tissue are not adequate in case of a gumma.

59. **Extensive Circular Resection of Knee.**—Bogoras was able to save the leg in two cases of such extensive disease of the knee that amputation of the thigh seemed the only possible means of relief. He cut out the entire segment into sound tissue above and below the knee, leaving merely the trunk vessels and nerves bridging the gap. He then sutured the parallel planes of the stumps together, with a wire suture on each side, pushing the popliteal vessels and the sciatic nerve up under the muscles of the rear aspect of the thigh in S shape. Although the leg is shorter than its mate, the two young men rejoice in their serviceable limb. Resection of the entire circumference, sparing only the nerve and vessels, permits rapid healing of the even raw surfaces after coaptation. The article is illustrated.

Beiträge zur klinischen Chirurgie, Tübingen

April, LXXXIV, No. 1, pp. 1-303. Festschrift for Reczey of Budapest

60 *Operation for Varicose Veins. (Zur operativen Behandlung der Venektasien der unteren Extremität.) P. Kuzmik.
61 Papilloma or Cancer of the Thyroid; Four Cases. (Der Zottenkropf.) T. v. Verebely.
62 Deformity after Reduction of Congenital Dislocation of the Hip-Joint. (Ueber die nach Reposition von kongenitalen Hüftgelenkluxationen entstandenen Oberschenkeldeformitäten.) M. Horvath.
63 *Ultimate Outcome of Urethral Strictures. (Dauerresultate der verschiedenen Behandlung-arten der Harnröhrenstrikturen.) D. Raskay.
64 *Thrombosis and Embolism after Gynecologic Operations. T. v. Wenczel.
65 The Appendix and Female Genitals. M. Bogdanovitsch.
66 *Abdominal Operations on Children. (Bedeutung chirurgischer Eingriffe in der Bauchhöhle bei Kindern.) D. Balas.
67 Incarcerated Ureter Stones. E. Boross.
68 Bladder Hernia. (Ueber Blasenbrüche.) M. Chudovszky.
69 Undescended Testicles. (Ueber die chirurgische Behandlung der Ectopia testis.) A. Fischer.
70 Operations on the Larynx through the Mouth. (Kehlkopfoperationen auf direktem Wege.) E. Pollatschek.
71 Cancer of the Nose and Accessory Cavities; Nine Operative Cases. (Ueber primäre bösartige Geschwülste der Nasenhöhle und der Nasennebenhöhlen.) J. Safranek.
72 *Passive Hyperemia in Treatment of Inflammation. (Die entzündungswidrige Wirkung der passiven Hyperämiebehandlung.) K. v. Schiller.
73 Otogenic Brain Abscess. (Die Genese, Symptomatologie und operative Behandlung der durch Mittelohreiterung entstandenen Gehirnabscesse.) K. Udvarhelyi.
74 Indications and Technic for Exclusion of the Pylorus. (Pylorusausschaltung.) K. Borszeky.
75 Experimental Resection of the Pancreas and Pancreato-Enterostomy. F. v. Faykiss.
76 Primary Inflammation of the Cecum. (Primäre Typhlitis.) F. Obal.
77 Recent Progress in Plastic Operations. T. v. Mutschenbacher.
78 Frontal Sinusitis; Ten Cases with Suppuration. (Ueber abscedierende Stirnhöhleneiterungen.) K. v. Lang.
79 *Operative Treatment of Rebellious Inflammation of the Bladder. (Die operative Heilung der rebellischen Cystitiden mittelst Blasencurettage und zeitweiliger Blasenfistel.) H. Unterberg.
80 Roentgenoscopy of Hernias. A. Baron and T. Barsony.
81 Appendicitis in Women. J. Fenyo.
82 Actinomycosis of the Appendix. T. Hüttl.
83 Operative Removal of a Non-Malignant Gastric Tumor. (Zur Kasuistik der gutartigen Magengeschwülste.) N. Tyovity.

60. **Treatment of Varicose Veins.**—Kuzmik compares the tedious and extensive operative procedures in vogue for distressing varicose veins and then calls attention to the excellent results he has obtained in ninety-nine cases with a very simple technic. Fifty-six of the ninety-nine patients required the operation on both legs. Recurrence has followed in only three cases. The principle of the technic is to throw a silk thread around the vein at several points in its course without exposing the vein. A day or so before the operation, as the patient stands, the leg is painted with the developer used in photography, and then with a silver nitrate pencil the enlarged veins with all their outlines are lightly drawn on the skin. The mark of the silver pencil turns black under the action of light, and the developer is then rinsed off. The next or the third day the operation is done under general or spinal anesthesia. After shaving and sponging off with ether, the skin is painted twice with a 5 per cent. tincture of iodin. A stout silk thread is then passed under the vein, beginning at the central end, the needle entering and emerging from 0.4 to 0.5 cm. from the edge of the blood-vessel. The needle must be introduced down to the fascia; the thread is tied at once over a little roll of gauze or wick. This spreads the pressure and prevents the thread from cutting through. This procedure is repeated along the vein at about every 5 cm. (2 inches), with care to apply it close to the mouth of every lateral branch. At points where the vein is very much enlarged it is better to make the interval spaces shorter. Healing proceeds without disturbance; the only possible complication is that one or more of the threads may cut through. The patients complain of pain during the first few days after the operation, which may compel small doses of morphin. The blood seems to coagulate in the blood-vessels thus tied off and form thrombi along the walls.

63. **Stricture of the Urethra.**—Raskay has been able to trace to date 130 of 517 cases of urethra stricture since 1893. In

seventeen cases internal urethrotomy was done over ten years ago and the results have been excellent, the permeability of the urethra having persisted unimpaired to date or if the stricture recurred it was readily dilated anew. Excellent results were obtained also with the retention catheter and a course of systematic dilatation. A long interval elapsed before recurrence. With temporary dilatation recurrence was frequent although these cases were of course the mildest form of stricture. The recurrence also proved unusually hard to conquer in this group of cases. The theoretical objections to internal urethrotomy have not been realized in practice. Mishaps are possible naturally with any operation, but internal urethrotomy is as free from danger as any while it entails the least possible loss of time and very little pain or inconvenience of any kind. When the patient cannot spare the time for systematic stretching of the stricture, internal urethrotomy is advisable even in conditions amenable to the systematic dilatation technic. Internal urethrotomy was applied as the routine measure in the cases in which passage of the sound was impossible or there was a tendency to frequent recurrence or the urethra had been undermined by false passages, cicatricial tissue causing an elastic stricture, or when peri-urethral inflammation induced frequent bleeding and absorption and infection were causing a tendency to fever.

64. **Thrombosis after Gynecologic Operations.**—Wenczel reiterates that three factors are involved in the production of thrombosis, some interference with the circulation rendering it sluggish at some point, changes in the vessel walls, and changes in the composition of the blood, causing it to flow more sluggishly. These factors may be combined or one alone may be responsible for the thrombosis. Prophylaxis of thrombosis should take all these factors into consideration before a laparatomy, improving the condition of the blood, toning up the heart and the resisting powers in general. The Trendelenburg position is particularly dangerous on this account as the vessels under the knee are liable to be compressed and interfere with the circulation; other sources of injury are the chilling of the vessels when the abdomen is open, the damage to the vessels in the field of operation, and later the pressure from the paretic distended intestines on the vessels, the rise in blood-pressure from coughing and vomiting, possibly also the hyperleukocytosis, and, last but not least, eventual infection of the wound. Operations for uterine myoma are particularly liable to the above disturbances; even with uterine cancer the heart is never in such advanced atrophy or degeneration as with myoma. Before the heart reaches this stage in connection with uterine cancer the patient has either died or has been cured by an operation. A rapid pulse may be an early sign of a tendency to thrombosis as the heart has to do extra work on account of the obstruction in the vessel. Sometimes the rapid pulse is accompanied by a little rise in temperature. Neither of these are constant nor a sure sign of thrombosis but they should suggest the possibility of it. Another important sign is painfulness at some point along a vein, increased or brought on by pressure, sneezing, coughing, deep breathing, defecation or other exertion. The thrombosis is more readily recognized in the superficial veins; sometimes the inflammation around the vein may be revealed by a red stripe in the skin above. Thrombosis of the vessels in the small pelvis gives few local signs of its presence, at most, edema in the inguinal region and adjoining abdominal wall and tenderness in the vicinity of the inguinal canal; in a few cases the obstructed vessel can be palpated through the vagina or rectum. In case of infection, phlebitis may become manifest. The danger of embolism is most imminent when the valveless veins of the pelvis are involved. It is rare with femoral thrombosis and rarest with thrombosis in the saphenous vein. Embolism follows when the thrombus softens up under the influence of infection, and this is most liable to occur in the pelvic veins. Small incisions, care to prevent postural interference with the circulation and efforts to reduce the injury to the tissues are all useful in prophylaxis, nor forgetting that thrombosis occurs more readily when there has been considerable loss of blood. Little can be hoped from treatment beyond the strictest repose and measures to reenforce the overburdened heart. In 835 laparotomies in the last eight years he had thrombosis in seventeen cases, that is, 2 per cent., with pulmonary embolism in ten. The thrombosis affected women with fever in seven cases, with subfebrile temperature in six and normal temperature in four. The pulse in the cases not complicated with embolism was from 96 to 108; in three pulmonary embolism cases it was 100 or 120, and in seven cases it ran up to 120 or 140. The thrombosis developed in three cases after a merely exploratory laparotomy, and in 4.6 per cent. of the 173 laparotomies for myoma. There was pulmonary embolism in over half of the cases of thrombosis in this group. Thrombosis developed also in one case each in seventy cancer operations on the uterus and in forty-five cases of extra-uterine pregnancy.

66. **Abdominal Operations on Children.**—Balas comments on the marvelous recuperative powers of children which enable them to recover more promptly than adults after abdominal operations, but at the same time they are far more susceptible to shock from the loss of blood, the general anesthesia and chilling of the viscera when the abdomen is opened or the intestines brought out, so that the prognosis depends mainly on these minor points. The diagnosis of appendicitis in children under 4 is sometimes difficult, but differentiation is especially important as pneumonia is liable to develop with symptoms suggesting appendicitis at first: Neglect to operate in appendicitis may prove disastrous, while appendicectomy at the onset of pneumonia might be fatal when the child would have recovered without it. With pneumonia there is not the "abdominal facial expression;" the tongue is moist and not so coated; the respiration rate is accelerated, and the abdominal wall is not so rigid over a circumscribed area as with appendicitis, and deep pressure is not painful although the appendix region may be tender on superficial contact. Broca has reported two cases in children which began with fever, vomiting and severe pains in the ileocecal region but other symptoms developed the thirty-sixth hour to show that the trouble was cerebrospinal meningitis. Digestive derangement may produce a clinical picture simulating that of appendicitis, but rest, abstention from food, purgatives and moist heat to the abdomen will relieve the colic and other symptoms from gastro-intestinal trouble while with appendicitis the tenderness of the region and the rigidity of the abdominal wall persist unmodified. Of great assistance in dubious cases is bimanual examination through the rectum which, he insists, should never be omitted; up to the age of 4 the forefinger can readily reach up above the edge of the small pelvis and palpate the cecal region, the inflamed appendix or the exudate. Balas has had cases of appendicitis in children in which there was no sensitiveness to pressure, the reason being that the appendix in children is longer proportionately than in adults, while the cecum itself lies lower, and thus the appendix extends down into the small pelvis and escapes pressure from palpation. This is the reason why the abscess from appendicitis is generally in the small pelvis in children and why pericystitis is so common. The symptoms from the latter may be the first sign of trouble, and the diagnosis can be cleared up only by palpation through the rectum. Other things being equal—which, however, is seldom the case—the prognosis of appendicitis in children is as good as in adults. Invagination may be differentiated by the palpable tumor, the bloody-mucous stools and the absence of abdominal rigidity. The child should be kept warm, possibly wrapped in cotton, and prepared for an operation. Then under general anesthesia every effort should be made to reduce the invagination, high rectal injections, insufflation of air, and the Hutchinson-Alapi maneuver. If these fail, the abdomen should be opened and the conditions corrected with the simplest and most rapid technic possible. Balas discusses the special features of the six forms of peritonitis to which children are liable and the treatment of each. The advantages of rinsing out the abdominal cavity after a laparatomy are more pronounced, he states, in children than in adults; the warm saline, at 42 to 44 C. induces active hyperemia which augments the resisting powers of the peritoneum and stimu-

lates the intestinal musculature while the peritoneum absorbs enough of the fluid to act as a stimulant for the heart. During the first stage of the affection, when the effusion is still fluid and odorless, rinsing may not be necessary, but after this stage he rinses copiously. Balas believes in draining for children more than for adults. He has repeatedly witnessed that after four or five days during which scarcely any effusion was drained out, a sudden gush of pus came, evidently from some abscess hidden away between the loops of intestines and finally breaking through on the line of least resistance, namely, toward the drain. With tuberculous peritonitis spontaneous recovery under general measures is possible but the healing is facilitated and hastened by a laparatomy. It may not be necessary if the child can have the advantage of sanatorium care and tuberculin treatment. The benefit from the laparotomy is undoubtedly due to the active hyperemia which results. The outlook is best with the form with effusion, worst with the adhesive type. Balas compares the experiences with various abdominal operations on children as reported from a number of different clinics.

72. **Why Passive Hyperemia Has a Curative Influence.**—Schiller describes experiments on animals which have apparently demonstrated that constriction hyperemia owes its healing influence to the fact that leukocytes in the blood thus arrested in the region rapidly succumb in the stagnant lymph as they are especially susceptible. As they die and disintegrate, substances escape from them into the blood and lymph which have a destructive, ferment-like action on the bacteria around. The bacteria are thus killed off, which of course checks the progress of the inflammation, modifies conditions and starts things on the road to healing. The above effects are more pronounced when there is considerable edema, suggesting that the lymph is the main factor involved. The effect of the stasis hyperemia lasts for hours after the constricting band has been taken off, but if the constriction has been too tight none of the above phenomena occurs; the leukocytes are not destroyed and the bacteria are not affected, so that the inflammation continues its course unmodified under excessive passive hyperemia. The constriction should never be applied so tight as to shut off the arterial blood; the venous, passive hyperemia is the aim—the hyperlymphia, as he calls it—and the results are better the more edema there is with stasis hyperemia.

79. **Treatment of Rebellious Cystitis.**—Unterberg has had seven cases of cystitis in which the bladder wall was thick and hard and had lost its power to stretch. Gonorrhea, pregnancy and catheterization are the most frequent causes, but cases are on record in which typhoid, syphilis or furunculosis were responsible for intractable inflammation of this kind. He treats it by scraping away the mucosa through a suprapubic incision, leaving a fistula for permanent drainage and local application of a 1 or 3 per cent. silver nitrate solution. In women it may be possible to curet through the urethra but the outcome is never so satisfactory. The special characteristic finding is that the finger is unable to stretch the small cavity formed by the hard bladder walls. In case the bladder walls have lost all their elasticity, there is no hope even from this treatment; all that can be done is to make a continent fistula through which the urine can be permanently voided and thus relieve the patient from his tormenting tenesmus.

Berliner klinische Wochenschrift

May 5, L, No. 18, pp. 813-860

84 *Treatment of Epilepsy. A. Erlenmeyer.
85 *Camphor in Experimental Bacterial Infection. K. E. Bochncke.
86 The Cholesterin Metabolism. (Untersuchungen und Gedanken über den Cholesterinstoffwechsel.) D. Klinkert.
87 *Unusual Forms of Gastro-Intestinal Hemorrhage. E. Stadelmann.
88 The Chemistry of the Cell. I. (Granoplasma.) P. G. Unna.
89 Influence of the Leukocytes on Anaphylatoxin. W. Spät.
90 The Work Outlined for the Medical Society for Sexology. (Die Aufgaben der "Aerztlichen Gesellschaft für Sexualwissenschaft.") I. Bloch.

84. **Treatment of Epilepsy.**—Erlenmeyer states in the course of this general review of epilepsy that he lays great stress on the circumstances under which the first seizure of all occurred, especially whether it was at night or in the day time. If at night, this suggests certain possible causes, such as overfilling the bladder, emptiness of the stomach, or cicatricial changes in the skull. In any event, inquiry should be made as to physical overexertion, vitiated air and preceding affections, fright, dread, emotional excitement in school or church, quarreling, fighting, etc. In examining epileptics, the size of the skull and the fundus of the eye should not be overlooked. One of his patients had the seizures only in bed and only when he lay on the left side; investigation revealed a tender point on the left side with weakness in the right arm when this tender point was tapped. Treatment must aim above all to depress the morbid irritability of the cortex. Repose is the main thing; with more than two seizures a week, patients taking a course of treatment should be kept in bed or on a reclining chair out-of-doors. He warns that an epileptic should never sleep with a feather pillow but always with a hair pillow, as with this he will not smother to death if he happens to roll on his face during a seizure in the night. Vitiated air alone may bring on seizures. If there is the slightest suspicion that the patient has had encephalitis or meningitis, Erlenmeyer applies a seton in the back of the neck and keeps it active for months. He states that he has obtained with this, especially in the young, brilliant results. He approves of chloral and cocain as adjuvants to bromid treatment, reducing at the same time the proportion of salt in the food. The most frequent causes of epilepsy are encephalitis and meningitis, whether during intra-uterine existence or early infancy or the result of inherited syphilis or not, and the different products and relics of these affections are liable to yield to treatment with iodids. Iodin salts internally, brine baths and a seton in the back of the neck are his main reliance. It is fortunate that children in particular bear the iodids so well. This treatment must be kept up for months and possibly repeated after a pause devoted to tonics. He always gives sodium and potassium iodid together, always in an alkaline solution and beginning with small doses, progressively increasing, with a diet avoiding acids. In prevention of the single seizure with protracted aura, lively friction and faradic electricity may avert the attack. Von Strümpell applies a ring of irritant plaster around the limb. With Jacksonian attacks beginning at the outer end and working upward, a constricting band at the root of the limb may arrest the attack. With a general aura, inhalation of amyl nitrite may be useful as also the swallowing of salt.

85. **Camphor in Experimental Infection.** — This is the research referred to by Leo as mentioned in abstract 98, p. 1672, of THE JOURNAL, May 24, 1913.

87. **Hemorrhage in the Gastro-Intestinal Tract.**—Stadelmann describes a number of unusual cases, including one in which a robust, previously healthy young man succumbed suddenly to hemorrhage from a varix in the stomach and absolutely no cause could be discovered for the varicose enlargement or for its rupture.

Medizinische Klinik, Berlin

May 4, IX, No. 18, pp. 693-734

91 *Abortive Forms of Tabes and General Paralysis. P. Schuster.
92 Nature and Treatment of Dysmenorrhea. A. Balu. Commenced in No. 17.
93 The Diet in Severe Diabetes. L. Blum.
94 Spinal Cord Complications in Acute Articular Rheumatism. Kober.
95 Length of Latent Period in Wassermann Reaction. A. Dreyer.
96 *Respiration Exercises in Treatment of Relics of Pleurisy. (Aktive Pneumatotherapie der Residuen von Pleuritis.) Stemmler.
97 Salvarsan in Syphilis. I. Schönberger. Commenced in No. 17.
98 Technic for Examination of Blood. (Weitere Beiträge zur Methodik der Blutuntersuchung.) E. Münzer.

91. **Abortive Tabes.**—Schuster remarks that the greatest progress in the last decades has been in the line of diagnosis. We have learned to recognize a number of conditions as the premonitory stage of certain familiar diseases. This has permitted the recognition of rudimentary or abortive forms of exophthalmic goiter, myxedema and many other affections. Analyzing his 500 cases of tabes, progressive paralysis or cerebrospinal syphilis during the last ten years, he found seventy-eight cases of the abortive type. Only forty-six of these had pronounced symptoms. In thirty-two there were merely reflex rigidity of the pupil and disturbance in the sensibility, usually in the legs. In none of these abortive cases was there any suggestion of lancinating pains. In a few there was isolated ataxia of the legs. He never encountered a case in which there were crises alone for years without other signs of certain tabes. In a recent case a woman of 30 had suffered for years from pains in the stomach and vomiting and a number of operations had been done on her, but the true source of the trouble was discovered by the rigid pupils, general hypalgesia and extinction of the Achilles reflex. His experience confirms that of others that the pupil disturbances may occur isolated, and for years may be the only sign of the affection. Next to the pupil disturbances come the disturbances in sensibility; sometimes the hypalgesia extends over the whole body. It is possible that the modification of the cerebrospinal fluid, resulting from the syphilis, may check the transmission of the sensations of pain. Another feature of the abortive type is the lack of characteristic subjective phenomena; the patients complain merely of headache, depression or restlessness, more like patients with merely functional derangement.

96. **Active Respiration Treatment to Ward Off Adhesions after Pleurisy.**—Stemmler expatiates on the advantages of respiratory exercises after recovery from pleurisy, thus increasing the ventilation through the lungs and the vital capacity while warding off development of adhesions. Simple deep breathing is useful but various forms of respiratory exercises in the pneumatic cabinet are far more effectual. He describes a number of them as he has perfected the technic.

Monatsschrift für Kinderheilkunde, Berlin

May, XII, No. 1, pp. 1-58

99 *Influence of Psychic Factors on Infants' Nutrition. (Einfluss psychischer Vorgänge auf den Ernährungserfolg bei Säuglingen.) W. Birk.
100 Research on Etiology of Scarlet Fever Negative to Date. (Aetiologie des Scharlachs.) M. Kretschmer.
102 *The Muscular Work Done by an Infant. (Die Arbeitsleistung des Säuglings.) A. Schlossmann.
103 Infant-Feeding. (Ueber Säuglingsernährung.) E. Schloss and L. Langstein.

99. **Psychic Influence in Nutritional Disturbances of Infants.**—Birk maintains that the condition known as "hospitalism" is sometimes brought about by purely psychic causes. In addition to hygienic care and sufficient food, the infant needs a certain inner satisfaction that comes from harmony with his surroundings and affection and understanding on the part of those charged with his care. Merely being cared for individually by a single nurse or in a private family does not always suffice if sympathy is lacking. He describes two cases where all external factors, such as unsuitable food, lack of care or infection could be excluded. He gives a curve showing the variation in weight and general health of the first infant under happy and unhappy surroundings. The second one was the illegitimate child of an extremely nervous and sensitive mother and probably inherited a psychopathic disposition. It developed profound anorexia and died on its second birthday. Neither clinical examination nor autopsy revealed any organic disease.

102. **Muscular Work Done by the Infant.**—Schlossmann registered the amount of muscular work performed by infants in the course of a day. Tables are given showing the results, which demonstrate that in proportion to the weight of its muscles, the infant does about as much muscular work as an active adult. The dietary requirement of the infant varies according to its temperament and activity, just as it varies in the adult, depending on whether he is at rest or engaged in active labor.

Münchener medizinische Wochenschrift

May 6, LX, No. 18, pp. 961-1016

104 *Thyroid Origin of Hemorrhagic Uterine Disease. E. Schrt.
105 Therapeutic Action of Various Dyes in Diplobacillus Infection of the Eyes. (Experimentelle und klinische Versuche über Chemotherapie bei der Diplobazillieninfektion des menschlichen Auges.) H. Gebb.
106 *Influence of Digitalis on Recuperation of the Heart after Muscular Exercise. (Einfluss der Digitalis auf die Erholung des Herzens nach Muskelarbeit.) E. Bernoulli.
107 Advantages of Intravesical Technic for Operations on the Bladder. L. Kleiteuthner.
108 *Treatment of Hemophilic Hemorrhage by Thermocauterization. H. Hahn.
109 Severest Form of Melena Neonatorum Cured by Intramuscular Injection of Defibrinated Human Blood. A. Merckens.
110 *Improved Technic for Preservation of Anatomic Specimens. L. Jores.
111 Tattooing and Erysipelas. E. Schrwald.
112 *Diagnosis and Treatment of Chronic Pyloric Ulcer. Faulhaber. Commenced in No. 17.

104. **Thyroid Origin of Hemorrhagic Uterine Disease.**—Schrt reviews recent research which demonstrates anew the close relations between the thyroid and the genital organs. Excessive or insufficient functioning of the thyroid causes changes in the blood, a relative reduction in the neutrophil leukocytes and a relative or absolute lymphocytosis. But with excessive thyroid functioning the coagulability of the blood is much reduced while with insufficient functioning the coagulating time is much hastened. This effect of abnormal conditions in the thyroid on the coagulating power of the blood throws light on certain cases of hemorrhagic uterine disturbances, suggesting that they are abortive forms of myxedema. In twenty pure cases of hemorrhagic uterine disturbances he found in thirteen of the patients pronounced signs of thyroid hypofunctioning and in all but one the coagulating time was from eight to four minutes in contrast to the nine or ten minutes with normal blood. The viscosity was frequently below normal, in a number only half of the normal figure. These findings parallel remarkably those Kocher obtained in 155 cases of subnormal thyroid functioning (myxedema, cachexia strumipriva). Schrt cites further arguments to sustain the view that thyroid insufficiency is a prominent factor in pregnancy tetany and possibly also in eclampsia. It is possible that all these conditions are different stages of the same disturbance in thyroid functioning. In any event, the condition of the thyroid should be ascertained in all cases of eclampsia and this is easily done by examination of the blood, abnormally rapid coagulation testifying to a lack of the normal thyroid secretion. One of his cases was peculiarly instructive; a young woman with the hemorrhagic metropathy had borne twins three years before and had had severe eclampsia at that time. At present the coagulation time is reduced to 5 minutes and with a relative neutrophil leukopeny of 45 per cent., there is lymphocytosis of 48 per cent. in contrast to the normal 20 to 25 per cent. It is possible also, he remarks, that the thyroid may be involved in the tendency to habitual abortion. Cases have been reported in which women with goiter who had been married for several years without conceiving bore children after thyroid treatment. Cretin mothers are liable to habitual abortion for a time but finally bear living children. The habitual abortions of women with infantile uterus suggest that the thyroid likewise may be in an infantile condition. It seems to be established now beyond question that syphilis is not responsible for all cases of habitual abortion. Schrt's research indicates that thyroid treatment may have a wider sphere of action than has hitherto been deemed possible.

106. **No Influence from Digitalis on the Work of the Muscles.**—Bernouilli reports painstaking research which fails to show any difference in the recuperation of the heart after graduated muscular work before and after exhibition of digitalis.

108. **The Actual Cautery in Hemophilic Hemorrhage.**—Hahn reports two cases in which as a last resort the bleeding gum was cauterized with the thermocautery. This seems paradoxic treatment as the cautery must open new vessels. The prompt success in both cases shows that under the influence of the heat the contents of the vessels must have coagulated and the production of thrombi from the changes in the vessel must have aided in preventing further escape of blood. It is possible also that the necrosis of the tissues liberated substances which promoted local coagulation. In one of his cases the child had injured its mouth in a fall and the bleeding had kept up for seven days, uninfluenced by injection of antitoxin, horse serum and gelatin. To prevent the child from working off the scab after the cauterization a bandage was tied around to project the upper lip and gum; also 15 c.c. of fresh human blood was injected in the nates. There was no further hemorrhage in either case after the cauterization.

110. **Preservation of Anatomic Specimens.**—Jores has succeeded in retaining the natural color much more effectually, he states, than has been possible with other technics. He ascribes his success to the use of chloral, which induces the production of hemochromogen. The specimen is soaked at first in a mixture of 5 parts artificial Carlsbad salts, 5 parts formaldehyd, 5 parts of a concentrated aqueous solution of chloral hydrate and 100 parts water. Otherwise the technic is the usual one with six hours rinsing and preservation in a solution of potassium acetate 30 parts, glycerin 60 parts and water 100 parts.

112. **Chronic Pyloric Ulcer.**—Faulhaber reiterates that chronic ulcer of the pylorus is characterized by a well defined syndrome: Besides the usual symptoms of gastric ulcer, cardialgia, manifest or invisible bleeding, vomiting, etc., the symptoms pointing to chronic pyloric ulcer are the periodicity of the disturbances, the constant excessive gastric secretion and the spasm of the pylorus. This symptom of pylorospasm is not observed with ulcers at a distance from the pylorus; only when they are in or near the latter. The pylorospasm can readily be recognized by Roentgen examination even when the motor function of the stomach is but slightly impaired. In eight of his thirty-two cases operative treatment was applied and there have been no disturbances since, but he does not venture to call these patients permanently cured as recurrence is still possible. Of the fifteen patients treated by internal measures alone only three are free from disturbances at present. This enables judgment of the efficacy of medical measures without waiting longer, proving that medical measures fail in from two-thirds to three-fourths of all cases of chronic pyloric ulcer.

Wiener klinische Wochenschrift, Vienna

May 1, XXVI, No. 18, pp. 693-736

113 *Treatment of Exophthalmic Goiter by Roentgenotherapy of the Ovaries. (Ueber Versuche, die Basedowsche Krankheit mittels Röntgenbestrahlung der Ovarien zu beeinflussen.) J. Mannaberg.

114 Reliability of Serodiagnosis of Pregnancy. (Erfahrungen mit der biologischen Diagnose der Schwangerschaft nach Abderhalden.) R. Ekler.

115 Technic for the Meiostagmin Reaction. (Ueber Antigene für die Meiostagminreaktion.) G. Izar.

116 From the Seat of War. (Kriegschirurgische Eindrücke und Beobachtungen aus Belgrad während des Balkankrieges.) E. L. Fieber.

117 Cyclic Oculomotor Paralysis. H. Lauber.

118 *Arsenic Poisoning from Wall Paint. (Zur Kasuistik der Arsenikvergiftung.) E. Lindström.

119 Trained Nurses in Austria. (Die Fürsorgeschwester im Frieden und im Kriege.) L. Moll.

113. **Treatment of Exophthalmic Goiter by Roentgen Exposures of the Ovaries.**—Mannaberg is convinced that the ovaries play some part in the clinical picture of exophthalmic goiter. This may be from some substance formed in the ovaries which acts on the thyroid and modifies its functioning in such a way that the exophthalmic goiter is the result. By the exposures to the Roentgen rays the source of this substance in the ovaries is dried up and the thyroid is permitted to resume its normal functioning. In the ten cases in which he has applied this measure a favorable influence was manifest on all the symptoms except the goiter. He does not call it a cure in any case as the pulse is still unstable. It is possible that a course of thyroid treatment might advantageously supplement the radiotherapy. In eight of the ten cases the patients gained from 2.3 to 21 per cent. in weight. In one case the exophthalmos completely subsided; in half of the cases more or less improvement in this was evident, and in the others there was no change. The most striking improvement was subjective; nearly all the patients now feel entirely well and have regained their full earning capacity. They were women from 21 to 42 years old, and from three to fifteen exposures were given. His impression on the whole is that this method of treatment is more reliable than any other to date in the not too far advanced cases, and leads to improvement more rapidly.

118. **Arsenic Poisoning.** — Lindström occupied with his eleven-year-old son two newly painted rooms in a Swedish hospital, where he was assistant physician. He developed intense "neuralgia" persisting for many months and arsenic was found in the oil paint on the walls, in considerable amounts, 2.8 mg. in 200 c.c. Arsenic was found in his urine for several months after removal of the paint from the walls. The rest of the family had arsenic in the urine also but not in such large amounts as the other rooms had received only two coats of the paint, while in the room occupied by Lindström four coats had been applied. It was found that the arsenic had worked from the deeper layers to the surface, and scraps of wood from the doors also responded to tests for arsenic. He occupied the room for four months and then left for a vacation trip. On the journey the first neuralgic pains developed in the right axillary and sacral nerves, and distressed him during movements but subsided when he lay still. This "neuralgia" lasted a month and then subsided during the summer—the season of open windows—but the next winter it returned in the arm and shoulder, with intense severity, until he could not use his right hand. The pain at last became like that of a phlegmon and involved the back, and his boy developed rebellious conjunctivitis and grew pale and thin. Then for the first time arsenic poisoning was suspected and examination of the urine revealed the arsenic. The pain in his arm for five months was so severe that he even thought of amputation but there was no actual paralysis.

Zeitschrift für Kinderheilkunde, Berlin

VII, Nos. 1-2, pp. 1-160. Last Indexed May 31, p. 1753

120 *Bronchotetany: Dyspnea from Spasm of Bronchial Musculature. (Ueber "Bronchotetanie," ein noch nicht beschriebenes Krankheitsbild der Spasmophillia.) R. Lederer.

121 Atropin, Pilocarpin or Epinephrin Tests for the Autonomic Nervous System in Children. (Die pharmakologische Prüfung des vegetativen Nervensystems im Kindesalter.) Eckert.

122 Classification of Alimentary Disturbances in Infants. (Zur Einteilung der Ernährungsstörungen des Säuglings.) H. Finkelstein.

123 *Constitutional Inferiority of Organs in Certain Breast-Fed Infants. (Ernährungsstörungen der Brustkinder und Konstitution.) J. K. Friedjung.

124 The Intestines in Fulminating Cerebrospinal Meningitis. (Der Darm bei fondroyant verlaufender Genickstarre. Zur Erklärung der parenteral bedingten Durchfälle.) F. Göppert.

125 *Enlargement of Cubital Lymph-Nodes. (Klinische Bedeutung der Cubitaldrüsenschwellungen.) Götzky.

126 *Toxin in the Blood in Diphtheria. (Toxinbefunde im Blute diphtheriekranker Kinder.) Harriehausen and J. Werth.

127 *Action of Tuberculin introduced Directly into the Lymphatic System. (Wirkung des auf den Lymphwegen den Drüsen zugeführten Tuberkulins.) H. Koeppe.

120. **Dyspnea from Spasmodic Contraction of the Musculature of the Bronchi**—In an article in the *Wiener klin. Wchnschr.* (abstracted in THE JOURNAL April 12, 1913, p. 1196), Lederer described a condition of spasm of the bronchial muscles causing dyspnea and finally death. In the present article he gives detailed histories and the necropsy findings in six cases terminating fatally, one in twelve hours and another only after two and a half months. Four of the children were rachitic, the others showed no signs of rachitis. The condition has not been described before as a distinct clinical

picture. It is in fact only the constitutional spasmophilic diathesis manifesting itself in the smooth bronchial musculature instead of in the striated muscle of the extremities as it more commonly does. Lederer gives it the name of bronchotetany, rather than bronchospasm, to distinguish it from asthma in which there are also bronchial spasms, but it is an entirely different condition. Asthma yields promptly to epinephrin, which only increases the spasm in bronchotetany. There is no atelectasia in asthma. The diagnosis of spasmophilia may be confirmed by the hypersensitiveness of the muscles to the electric current. Attention is called to the involvement of the bronchial muscles by the appearance of the child. There is marked dyspnea (respirations as high as 120 per minute), involvement of the accessory muscles of respiration, dilated nostrils. The physical signs may indicate pneumonia but roentgenoscopy shows atelectasia instead of the typical picture of consolidation. Necropsy shows a compensating emphysema in the part of the lung that is not atelectatic. Treatment is not very hopeful. In the cases of long duration small or frequent feedings of breast milk or gruel should be given, with cod liver oil. In the severe acute cases only symptomatic measures can be applied, chloral for the spasms, camphor and caffein for the heart and oxygen inhalation for the dyspnea.

123. **Heredity as the Cause of Nutritional Disturbances in Infancy.**—In 1907 Adler published the results of his research on organic defects. They indicate that children may inherit more or less defective organs and that these inherited defects manifest themselves later in life in various ways. Friedjung decided to test this theory in regard to the diseases of the digestive tract encountered in his clinic. He selected seventy-six apparently healthy new-born infants, with no history or evidence of tuberculosis or syphilis. They were all breast-fed; he excluded from his research older infants and those fed artificially, in order to avoid the possibility of external causes of disease. His results confirmed Adler's hypothesis. The majority of the children who developed normally had parents who showed no defects in the digestive tract. A majority of those who, in spite of the greatest care, developed some digestive disturbance, had parents with digestive tracts below par. The history of the parents and grandparents was studied, and tables are given showing his findings in detail.

125. **Swollen Lymph-Nodes at the Elbow.**—Götzky examined 647 children for enlarged cubital glands and found them in 113; in eighty-six on both sides, in twenty-seven only on one side. He concludes that almost all cases of bilateral enlargement are syphilitic but only a few cases of enlargement on one side. It is often impossible to determine the cause of the one-sided enlargement. The lymphatic diathesis has nothing to do with it. Rachitis has very little effect on the cubital glands; tuberculosis somewhat more. Roentgenoscopy is a valuable aid in diagnosing syphilitic bone changes.

126. **Demonstration of Toxin in the Blood of Diphtheria Patients.**—By the use of Römer's method of intracutaneous injection of the serum of diphtheritic children into guinea-pigs, Harriehausen and Wirth were able to demonstrate the presence of toxin in the blood. Necrotic areas developed at the site of the injection, while no reaction followed the injection of normal serums. Serum from cases of varicella and cerebrospinal meningitis also caused necrosis, but here the addition of diphtheria antitoxin had no effect, while in the diphtheritic cases the addition of antitoxin before injection prevented necrosis. Beyer concluded from his experiments that since both toxin and antitoxin could be demonstrated in the blood in some cases, only small doses of antitoxin should be given. Harriehausen and Wirth, on the contrary, conclude that so long as there is free toxin circulating in the blood, larger doses of antitoxin can be given with good results, and that, as new toxin is being constantly produced, large initial doses of antitoxin are to be recommended.

127. **The Skin Tuberculin Test Technic as a Therapeutic Measure for Tuberculous Lymph-Nodes.**—Koeppe noticed in giving von Pirquet's test that the enlarged axillary glands on the side of the test frequently decreased in size, while those on the other side were unmodified. He concluded that the tuberculin, entering the lymph-spaces, was carried to the lymph-nodes, where it exerted a direct curative effect. He describes a striking case which confirmed this view. A child of 4½ years was brought to the hospital in an emaciated cachectic state. Chest flat, breathing shallow but no physical signs in the lungs; in the right axilla swollen lymph-nodes, as large as the fist; the lymph-nodes along the sternomastoid also swollen. The lymph-nodes were hard, with no trace of fluctuation. The Pirquet test was strongly positive. Four days later there was a pustule at the site of the test inoculation, surrounded by small vessels. Unexpectedly the child began to improve, and the axillary lymph-nodes to decrease in size. Another Pirquet was given with continued improvement, but the neck glands did not decrease, and then Pirquet was given just back of the ear, as the lymph passages of this region communicate directly with the neck lymph-nodes. Decrease in the size of these nodes immediately followed. The general health and the local condition continued to improve and at present—four years later—the child is well. Other cases have been treated in the same way since, with good results, and Koeppe recommends it as a therapeutic measure in all cases where the lymph-nodes are swollen and hard and the Pirquet reaction is strongly positive.

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128 Local Action of De Giaxa's Tuberculin. (Intorno all'azione locale delle sostanze estratte dal bacillo della tubercolosi.) A. Romano.

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129 Transplantation of Kidneys. (Esperienze sul trapianto dei reni.) C. Mantelli.

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130 Mikulicz' Disease in Connection with Leukemia and Pseudoleukemia. A. Ceconi.

131 Foreign Bodies in Esophagus and Air Passages. (Contributo alla casistica dei corpi estranei dell'esofago e delle vie aeree.) E. Lazzari.

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132 *Safe Limit of Loss of Blood at Childbirth. (Store blødninger ved fødsel. Hvor stort blodtap taaler et menneske?) G. Gjestland.

133 The Campaign against Tuberculosis in Christiania. (Tuberkulosearbeidet i Kristiania.) Y. Ustvedt.

134 First Death after Salvarsan Injection in Norway. (Død efter salvarsaninjektion.) K. Grøn.

135 Dislocation of the Foot. (Luxatio pedis sub talo.) N. Paus.

136 Solitary Cysts in Long Bone. (BenCyster, ostitis fibrosa og multiple exostoser.) N. Paus.

137 Glycosuria and Internal Secretions. (Om glykosurien med særlig hensyn til den interne sekretion.) V. Fürst.

132. **How Much Blood Can a Person Lose without Succumbing?**—Gjestland discusses the frequency of fatal hemorrhage at childbirth, stating that there were five cases among the 20,628 women delivered in the last ten years at the Christiania maternity. In four of the five fatal cases there was placenta praevia. The mortality from excessive hemorrhage was thus 0.024 per cent. He cites five other clinics with a mortality from this cause ranging from 0.036 to 0.12 per cent. of from 11,000 to 38,923 obstetric cases. At Christiania there were in addition eighty-one cases in which 2,000 gm. of blood or more was lost but the women recovered. In some the amount was 2,500 gm. and in two instances 3,000. This figure—3 liters—seems the extreme limit, but the two women were discharged the fifteenth and twenty-seventh day in good condition; in one the hemoglobin percentage on dismissal was 80 and the reds had climbed to 4,460,000. The experiences at the maternity have shown that dangerous hemorrhage from atony of the uterus is so rare as to be negligible. The hemorrhage is generally due to retained clots or other material. Gjestland accepts 1/13 of the body weight as the average amount of blood in the body. The women who lost from 2,000 to 3,000 gm. of blood must thus have been drained of about half their entire blood supply. (Discussed also in editorial in this issue.)

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